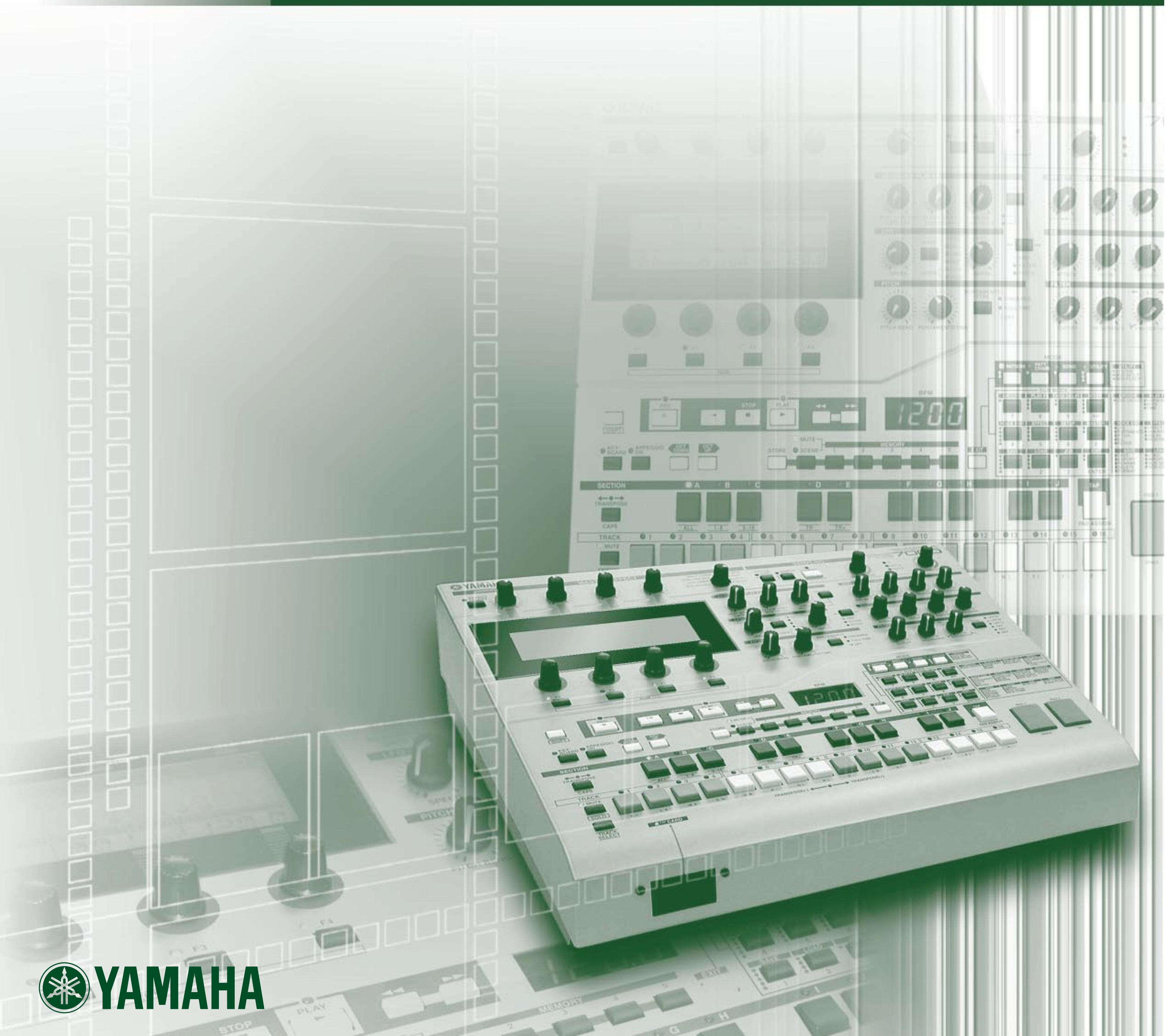
OWNER'S MANUAL

MUSIC PRODUCTION STUDIO

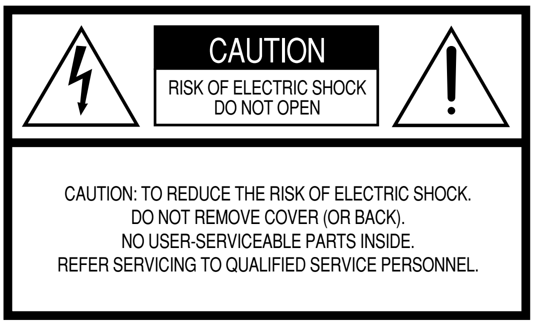
RS7000



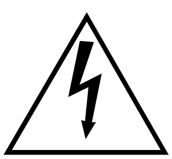
YAMAHA

SPECIAL MESSAGE SECTION

PRODUCT SAFETY MARKINGS: Yamaha electronic products may have either labels similar to the graphics shown below or molded/stamped facsimiles of these graphics on the enclosure. The explanation of these graphics appears on this page. Please observe all cautions indicated on this page and those indicated in the safety instruction section.



The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



The lightning flash with arrowhead symbol, within the equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock.

IMPORTANT NOTICE: All Yamaha electronic products are tested and approved by an independent safety testing laboratory in order that you may be sure that when it is properly installed and used in its normal and customary manner, all foreseeable risks have been eliminated. DO NOT modify this unit or commission others to do so unless specifically authorized by Yamaha. Product performance and/or safety standards may be diminished. Claims filed under the expressed warranty may be denied if the unit is/has been modified. Implied warranties may also be affected.

SPECIFICATIONS SUBJECT TO CHANGE: The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

ENVIRONMENTAL ISSUES: Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

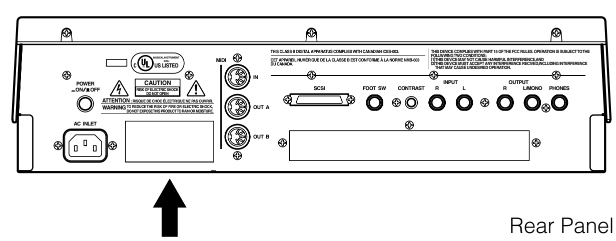
Battery Notice: This product MAY contain a small non-rechargable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

Warning: Do not attempt to recharge, disassemble, or incinerate this type of battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by applicable laws. Note: In some areas, the servicer is required by law to return the defective parts. However, you do have the option of having the servicer dispose of these parts for you.

Disposal Notice: Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc.

NOTICE: Service charges incurred due to lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

NAME PLATE LOCATION: The graphic below indicates the location of the name plate. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.



Rear Panel

Model ________________________________

Serial No. ________________________________

Purchase Date ________________________________

92-469- ① (rear)

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

* Please keep this manual in a safe place for future reference.

⚠ *WARNING*

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

Power supply/Power cord

- Only use the voltage specified as correct for the instrument. The required voltage is printed on the name plate of the instrument.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.
- Use only the supplied power cord/plug.
- Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.

Do not open

- This instrument contains no user-serviceable parts. Do not attempt to disassemble or modify the internal components in any way.

Water warning

- Do not expose the instrument to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings.
- Never insert or remove an electric plug with wet hands.

Fire warning

- Do not put burning items, such as candles, on the unit.
  A burning item may fall over and cause a fire.

If you notice any abnormality

- If the power cord or plug becomes frayed or damaged, or if there is a sudden loss of sound during use of the instrument, or if any unusual smells or smoke should appear to be caused by it, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the instrument inspected by qualified Yamaha service personnel.

⚠ *CAUTION*

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the instrument or other property. These precautions include, but are not limited to, the following:

Power supply/Power cord

- Always connect the three-pin attachment plug to a properly grounded power source. (For more information about the main power supply, see page 22.)
- When removing the electric plug from the instrument or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.
- Remove the electric plug from the outlet when the instrument is not to be used for extended periods of time, or during electrical storms.
- Do not connect the instrument to an electrical outlet using a multiple-connector. Doing so can result in lower sound quality, or possibly cause overheating in the outlet.

Location

- Do not expose the instrument to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel disfiguration or damage to the internal components.
- Do not use the instrument in the vicinity of a TV, radio, stereo equipment, mobile phone, or other electric devices. Otherwise, the instrument, TV, or radio may generate noise.
- Do not place the instrument in an unstable position where it might accidentally fall over.
- Before moving the instrument, remove all connected cables.

Connections

- Before connecting the instrument to other electronic components, turn off the power for all components. Before turning the power on or off for all components, set all volume levels to minimum. Also, be sure to set the volumes of all components at their minimum levels and gradually raise the volume controls while playing the instrument to set the desired listening level.

Maintenance

- When cleaning the instrument, use a soft, dry cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.

Handling caution

- Do not insert a finger or hand in any gaps on the instrument.
- Never insert or drop paper, metallic, or other objects into the gaps on the panel. If this happens, turn off the power immediately and unplug the power cord from the AC outlet. Then have the instrument inspected by qualified Yamaha service personnel.
- Do not place vinyl, plastic or rubber objects on the instrument, since this might discolor the panel or keyboard.
- Do not rest your weight on, or place heavy objects on the instrument, and do not use excessive force on the buttons, switches or connectors.
- Do not operate the instrument for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.

Backup battery

- This instrument has a built-in lithium backup battery. When you unplug the power cord from the AC outlet, the system setup data (Utilitey mode [Page 255] and other settings) is retained. However, if the backup battery fully discharges, this data will be lost. When the backup battery is running low, the display indicates “Backup Battery Low.” In this case, immediately save the data to a Memory Card (SmartMedia)/a SCSI disk (See page 114, 166, 204), then have qualified Yamaha service personnel replace the backup battery.

Saving data

Saving and backing up your data

- Voice and sequence data you created is lost when you turn off the power to the instrument. Save the data to a Memory Card (SmartMedia)/a SCSI disk (See page 114, 166, 204) .
- System setup data (Utility mode [Page 255] and other settings) is retained when the power is turned off, as long as the backup battery retains a charge. However, the data could be lost due to malfunction or incorrect operation. Save important data to a Memory Card (SmartMedia)/a SCSI disk.

Backing up the Memory Card (SmartMedia)/SCSI disk

- To protect against data loss through media damage, we recommend that you save your important data onto two Memory Cards (SmartMedia)/SCSI disks.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the instrument, or data that is lost or destroyed.

Always turn the power off when the instrument is not in use.

Make sure to discard used batteries according to local regulations.

Handling and Installation of Options

⚠ WARNING

- **Before beginning installation, switch off the power to the RS7000 and connected peripherals, and unplug them from the power outlet. Then remove all cables connecting the RS7000 to other devices. (Leaving the power cord connected while working can result in electric shock. Leaving other cables connected can interfere with work.)**
- **Do not disassemble, modify, or apply excessive force to board areas and connectors on the option board and SIMMs. Bending or tampering with boards and connectors may lead to electric shock, fire, or equipment failures.**

⚠ CAUTION

- **Before handling an option board or SIMM, you should briefly touch the RS7000 metal casing (or other such metallic area) with your bare hand so as to drain off any static charge from your body. Note that even a slight amount of electrostatic discharge may cause damage to these components.**
- **It is recommended that you wear gloves to protect your hands from metallic projections on the RS7000, SIMMs, an option board, and other components. Touching leads or connectors with bare hands may cause finger cuts, and may also result in poor electrical contact or electrostatic damage.**
- **Take care to avoid dropping screws into the RS7000 unit. If a screw does fall in, be sure to remove it before you reassemble and power up the unit. Starting the unit with a loose screw inside may lead to improper operation or equipment failure. (If you are unable to retrieve a dropped screw, consult your Yamaha dealer for advice.)**

* Consult your Yamaha dealer if you have any questions regarding installation procedures for the option board or SIMMs.
* If SIMM memory fails to work properly, consult the item's dealer for advice.

INTRODUCTION

Thank you for your purchase of the Yamaha MUSIC PRODUCTION STUDIO RS7000.

The Yamaha R7000 brings it all together. Everything you need for professional-level music and remix production — particularly in dance, techno, hip hop, R&B, and ambient genres — is included and flawlessly integrated in a system that has been specifically designed to facilitate modern production techniques. The RS7000 combines a powerful, flexible sequencing system with a state-of-the-art AWM2 tone generator loaded with an awesome selection of drum kits and voices, and a sampler which allows you to sample your own sounds and loops and easily incorporate them into your sequences. All of this is brought together with an interface that is intuitive and easy while offering the depth and real-time control required by professional applications.

In order to take maximum advantage of the many advanced features and capabilities offered by the RS7000, we urge you to read the manual carefully, and keep it in a safe, readily-accessible location for future reference.

* The company names and product names in this Owner's Manual are the trademarks or registered trademarks of their respective companies.

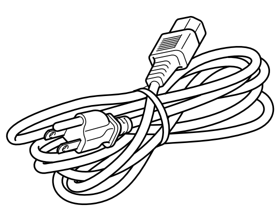
* Unauthorized copying of copyrighted software for purposes other than purchaser's personal use is prohibited.

Supplied Accessories

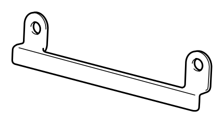
Please check that the following accessories are included in the RS7000 package.

- CD-ROM × 1
- AC Power Cord × 1
- Owner's Manual (this document) × 1
- "About the Memory Card & CD-ROM" Document × 1
- Memory Card × 1
- Memory Card Security Adapter × 1

• AC Power Cord



• Memory Card Security Adapter



* Refer to the separate "About the Memory Card & CD-ROM" document for information about the contents of the supplied Memory Card and CD-ROM.

RS7000 FEATURES

● Powerful 16-track Sequencer

In the phrase-based PATTERN mode, complete patterns can be quickly assembled by combining individual phrases from the vast range of preset phrases provided, or you can record your own using the extensive selection of drum kits and other voices provided by the internal AWM2 tone generator. Sampled sounds, loops and breakbeats can just as easily be added to the sequence to create the groove your music demands. Your patterns can be used individually, or the PATTERN CHAIN mode can be used to automatically sequence specified patterns to create even complex arrangements.
There's also a SONG mode which functions as a 16-track sequencer with all the features and versatility you'd expect from a full-blown stand-alone sequencer … and more.

● AWM2 Tone Generator

Even electronic sounds change with the times, and the RS7000 is right up to date. The internal AWM2 tone generator system offers more than 1054 pitched voices, and sound effects, as well as 63 top-quality drum kits — you'll find what you need for just about any musical genre. You also have a range of voice editing functions that make it easy to customize and personalize the sound to bring your art to life.

● A Wealth of Preset Phrases

Up-to-date preset phrases are provided. Patch these together in the PATTERN mode for an unlimited range of pattern variations.

● Arpeggio Function

5 auto-arpeggio types are ideal for use in dance and techno styles. Arpeggiated phrases can be recorded to the sequencer and edited as required, or transmitted to other gear via MIDI.

● Advanced Sampling and Editing Features

In addition to directly loading sample data in a variety of popular formats, the RS7000 allows you to record your own samples from CDs or any line-level or microphone source. Once your samples are recorded they can be trimmed, sliced, looped, and otherwise prepared for playback with the power and flexibility you'd expect from a stand-alone sampler. And when your samples are ready, they can be incorporated into patterns and sequences just as easily as the tone-generator voices. You can even use the sampler to record vocal parts to take your project right up to the final production stage without using any equipment other than the RS7000.

● Real-time Loop Remix and Play Effects

Performance data can be automatically divided and randomly rearranged to create totally new sounds. Create a range of variations instantly from a drum pattern, for example.
Play effects are also ideal for real-time creative variation, allowing you to tweak timing, note parameters, or harmonization without altering the sequence data.

● Real-time Control

Another key requirement for creative freedom in modern music production is real-time sound control. The RS7000 offers plenty of sonic manipulation capability with a comprehensive range of knobs for hands-on control of BPM, filter parameters, envelopes, pitch, LFO, and more. The RS7000 also features a keyboard and velocity-sensitive pads that allow voices and samples to be played in real time, as well as switching between sequence sections and tracks, and controlling the track mute and solo functions. The RS7000 also features mute and scene memory functions which can take "snapshots" of track mute setups or complete panel-control setups that can be recalled in an instant.

● Memory Card Storage, SCSI, and Memory Expansion

Sequences, phrases, and samples can be conveniently stored on compact, high-capacity memory cards, or on just about any type of external SCSI storage medium (hard disk, MO, ZIP, etc.) connected to the RS7000's SCSI port. You can also connect read-only devices such as a CD-ROM drive to conveniently load samples and other data. 2 SIMM slots are provided for memory expansion, allowing the RES7000 to be packed with up to 64 megabytes of RAM for extra sampling leeway.

● I/O Expansion

The optional AEB1 I/O expansion board can be installed in the RS7000 to provide 6 additional individual analog outputs as well as both coaxial and optical digital input and output.

● An Extensive Range of Effects

In today's music effects are almost as important as the sounds they are applied to. The RS7000 offers plenty of sound processing power with PLAY FX which function at the sequencing stage to provide harmonization as well as note and timing variations; a three-stage DSP effect system with VARIATION, DELAY, and REVERB effects; and a MASTER EFFECT stage that offers a range of up-to-date effects for the overall sound.

● In Depth Jobs and Editing

Creating sequences that sound just right can be a tricky business, but the RS7000 makes the job as smooth and easy as possible with an extensive selection of jobs and editing functions. There's grid groove, for example, to give your tracks the kind of groove and feel that straightforward sequencing simply can't achieve. In the RS7000 this flexible feature works with samples as well as tone-generator data for unprecedented "feel" control. Another sampling feature that offers hands-on creative control is "real time loop remix" — a powerful and easy way to remix your sampled loops while monitoring them in real time. Then there are jobs to automatically create glides, rolls, crescendos, and other subtleties that can make a huge difference to the musical mood. If you can image it, the RS7000 can probably do it. And when you want to really make detailed refinements, the EDIT mode gives you direct access to individual note and even parameters.

Using the Owner's Manual

The Manual Structure

The RS7000 Owner's Manual is broadly divided into 3 main sections: the Tutorial section, the Reference section, and the Appendix.

● The Tutorial Section

This section covers basics such as the structure of the RS7000 system, voice selection, recording, sampling, and other operations that are fundamental to the RS7000.

● The Reference Section

This section includes detailed descriptions and procedures for all of the RS7000 features and functions. Use it as an "encyclopedia of functions" to find specific information you need.
The Reference section includes the following chapters:

Chapter 1: Basics...(Page 51)
The basic concepts, procedures, displays, and special functions you'll need to know in order to operate the RS7000 efficiently. Be sure to read this chapter before using the RS7000 for the first time.

Chapter 2: The Pattern Mode ...(Page 69) ~ Chapter 6: The Utility Mode...(Page 255)
Complete, detailed coverage of all features and functions, organized by mode. Find specific information about specific functions in these chapters.

Chapter 7: Other Information...(Page 263)
Basic information about MIDI and MIDI events handled by the RS7000. Refer to this chapter form information about using the RS7000 with other MIDI devices.

Appendix...(Page 271)
Information on installing optional equipment, the RS7000 specifications, voice lists, effect list, error messages, MIDI data format, and other detailed information.

Finding Specific Information

Use one of the methods described below to find the information you are looking for.

● The Table of Contents ...(Page 10)

The Table of Contents is best for finding chapters or sections of the manual that cover the type of information you are looking for.

● The Index ...(Page 343)

The index is the place to look when you are searching for a specific function or information related to specific nomenclature.

● The Controls & Connectors ...(Page 12)

This section provides information about the RS7000 panel controls and connectors, with references to related information throughout the manual.

● The Function Tree ...(Page 55)

The Function Tree lists all RS7000 functions with page references in a tree-type diagram which is organized by mode.

● The Page Footers, Margins, and Headers

The area at the bottom of each page shows the page number. The chapter numbers and titles are also listed in the rightmost margin of each spread. The header (the top margin) displays the title of the information included in the page. This information can help you find information while flipping through the manual pages.

Symbols

The following symbols are used through the manual to indicate different types of information.

⚠ IMPORTANT .... Important information! Read this to ensure that you don't accidentally erase important data or make other potentially serious errors.

NOTE .... Incidental information. This information is helpful, through not always essential. Read as necessary.

[Step] .... Procedure. Step-by-step instructions for performing an operation.

[PLAY].................................... Buttons. References to the RS7000 buttons will appear like this in the text.

P✻✻ .... Page reference. Related information can be found on the page number provided.

The illustrations and LCD screens as shown in this owner's manual are for instructional purposes only, and may appear somewhat different from those on your instrument.

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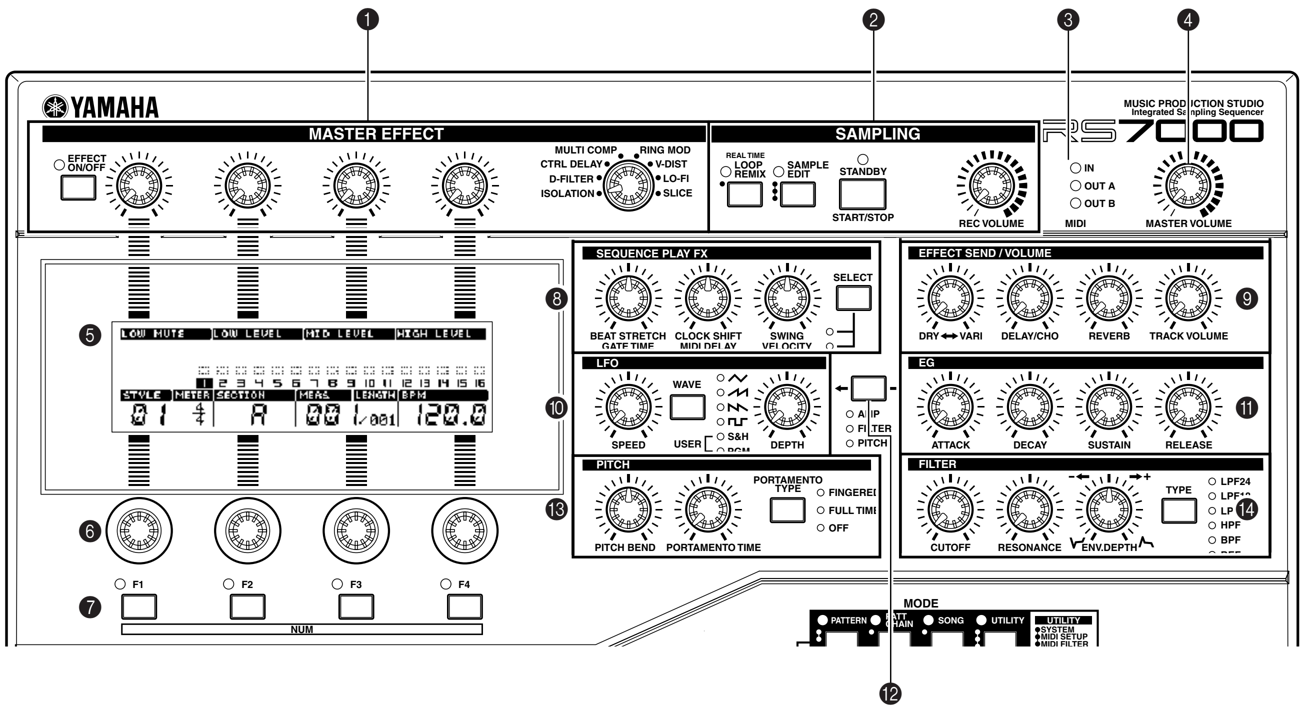
The Controls & Connectors

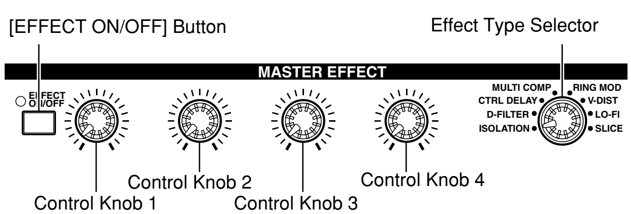
The Top Panel (Upper Section)



❶ MASTER EFFECT (Page 63)

These controls control the final master effect stage which applies processing to the stereo signal appearing at the RS7000 stereo outputs.

Detailed settings are available in the PATTERN mode, PATTERN CHAIN mode, and SONG mode MASTER sub mode (Page 111, 164, 202).



[EFFECT ON/OFF] Button

Turns the master effect stage on or off. The indicator lights when the master effects are on.

To temporarily turn the master effect on, press the [EFFECT ON/OFF] button while holding the [SHIFT] button. The master effect will be applied only while the button is held.

Control Knob 1 ~ Control Knob 4

These four knobs control the master effect parameters shown below each knob at the top of the LCD display.

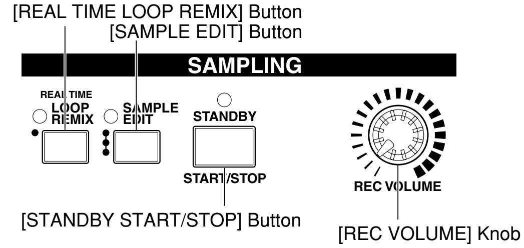
The parameters controlled by these knobs can also be accessed and edited via the PATTERN, PATTERN PATCH, and SONG mode MASTER sub mode display (Page 111, 164, 202).

Effect Type Selector (Page 63)

Selects the master effect type.

❷ SAMPLING

The controls in this group control sampling via the RS7000 INPUT L and R connectors, and allow editing of recorded samples.



[REAL TIME LOOP REMIX] Button (Page 239)

Turns the real-time loop remix function on or off. The indicator lights when the real-time remix feature is on.

[SAMPLE EDIT] Button (Page 241)

Engages the SAMPLE EDIT mode. The indicator lights when the SAMPLE EDIT mode is active.

[STANDBY START/STOP] Button (Page 229)

Switches to the sampling mode, and starts/stops the sampling operation.

[REC VOLUME] Control

Adjusts the input level of the analog signal appearing at the INPUT L and R connectors. Used for sample recording and A/D input.
When the optional AIEB2 I/O expansion board is installed, additional DIGITAL IN and OPTICAL IN inputs are available, but the [REC VOLUME] control does not affect the input level of these inputs.

❸ MIDI IN/OUT Indicator

The appropriate lamp will flash when MIDI data is received or transmitted by the RS7000. Use this indicator to confirm MIDI data reception or transmission.

❹ [MASTER VOLUME] Control

Adjusts the level of the signal appearing at the RS7000 OUTPUT L/MONO and R connectors as well as the PHONES jack.
When the optional AIEB2 I/O expansion board is installed, additional ASSIGNABLE OUT (AS1 ~ 6), DIGITAL OUT, and OPTICAL OUT outputs are available, but the [MASTER VOLUME] control does not affect the level of these outputs.

❺ Display

This backlit LCD (Liquid Crystal Display) displays all information and parameters necessary for operation of the RS7000.

❻ [Knob 1] ~ [Knob 4]

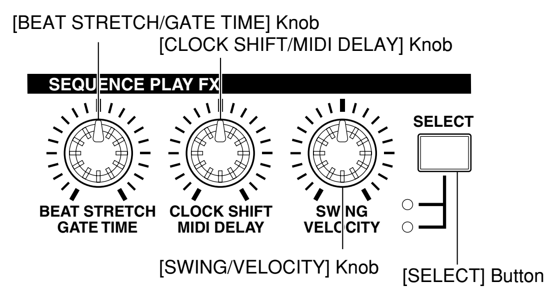
These four knobs adjust the parameter values which appear directly above them in the display. Rotating a knob while holding then [SHIFT] button allows coarse adjustment at approximately 10x the normal rate.

❼ [F1] ~ [F4] Function Buttons

Select parameters appearing on the bottom line of the LCD, execute functions, and switch between display pages.
When more than one parameter is assigned to a single function knob ([Knob 1] ~ [Knob 4]), the corresponding function button can be used to select the parameter to be edited.
When a function knob is active (i.e. it can be used to perform a function), the corresponding indicator will light.
When a numeric parameter is to be edited, in some cases the SUB MODE buttons can be used as a numeric keypad for direct numeric data entry while the [SHIFT] and related function button ([F1] ~ [F4]) is held (Page 66).

❽ SEQUENCE PLAY FX Controls

In addition to the functions described here, these knobs are fully assignable and can be set up to control a wide range of functions and parameters.
Since the knobs allow continuous parameter control for the selected track, they can be used for creative real-time performance sound control. 2 functions can be assigned to each knob, selected by the [SELECT] button to their right, allowing the three knobs to control up to 6 different parameters or functions.
The default assignments for these knobs are the main PLAY EFFECT and MIDI DELAY parameters. Refer to "Chapter 2: The Pattern mode", pages 87 and 90, for more information on PLAY EFFECTS and MIDI DELAY.



[BEAT STRETCH/GATE TIME] Knob

With the initial default settings, this knob provides real-time control of the PLAY FX BEAT STRETCH and GATE TIME parameters.
BEAT STRETCH compresses or expands the length of measures (Page 89), while GATE TIME alters the gate time of the notes (Page 88).

[CLOCK SHIFT/MIDI DELAY] Knob

With the initial default settings, this knob provides real-time control of the PLAY FX CLOCK SHIFT and MIDI DELAY parameters.
CLOCK SHIFT shifts the timing of notes (Page 89), while MIDI DELAY adjusts the delay time of the MIDI DELAY effect (Page 91).

[SWING/VELOCITY] Knob

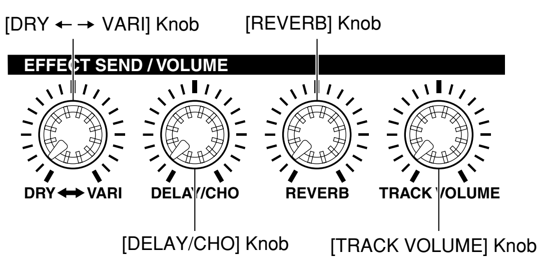
With the initial default settings, this knob provides real-time control of the PLAY FX SWING and VELOCITY parameters.
SWING adjusts the timing of the 8th-note up (back) beats to create a bounce or swing feel (Page 89). VELOCITY adjusts the velocity of the notes (Page 88).

[SELECT] Button

Selects one of the two functions/parameters assigned to each knob. The indicator next to the currently selected parameters will light.

❾ [EFFECT SEND/VOLUME] Knobs

In addition to the functions described here, these knobs are fully assignable and can be set up to control a wide range of functions and parameters.
Since the knobs allow continuous parameter control for the selected track, they can be used for creative real-time performance sound control.
The default assignments for these knobs are the main MIXER parameters. Refer to “Chapter 2: The Pattern mode”, page 69, for more information on the MIXER parameters.



[DRY ←→ VARI] Knob (Page 96)

With the initial default settings, this knob provides real-time control of the MIXER DRY SEND LEVEL parameter. This adjusts the level of the signal sent to the dry line.

[DELAY/CHO] Knob (Page 96)

With the initial default settings, this knob provides real-time control of the MIXER DELAY/CHORUS SEND LEVEL parameter. This adjusts the level of the signal sent to the delay or chorus effect.

[REVERB] Knob (Page 96)

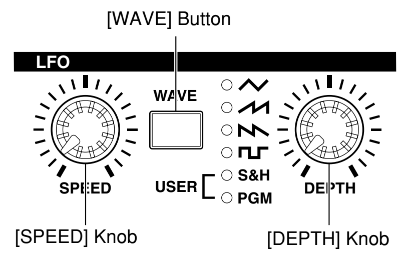
With the initial default settings, this knob provides real-time control of the MIXER REVERB SEND LEVEL parameter. This adjusts the level of the signal sent to the reverb effect.

[TRACK VOLUME] Knob (Page 94)

With the initial default settings, this knob provides real-time control of the volume of the currently selected track.

❿ LFO Knobs

In addition to the functions described here, these knobs are fully assignable and can be set up to control a wide range of functions and parameters.
Since the knobs allow continuous parameter control for the selected track, they can be used for creative real-time performance sound control. 3 functions can be assigned to the [DEPTH] knob, selected by the [AMP/FILTER/PITCH] button ⓬ to its right.
The default assignments for these knobs are the main LFO parameters.



[SPEED] Knob (Page 98)

With the initial default settings, this knob provides real-time control of the LFO SPEED parameter.

[DEPTH] Knob (Page 98)

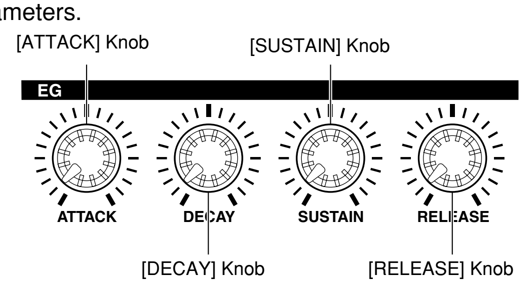
With the initial default settings, this knob provides real-time control of the LFO DEPTH parameter. Depending on the function selected by the [AMP/FILTER/PITCH] button ⓬, the [DEPTH] knob can control the depth of a tremolo, wow, or vibrato effect.

[WAVE] Button (Page 98)

Selects the LFO waveform.

⓫ [EG] Knobs

In addition to the functions described here, these knobs are fully assignable and can be set up to control a wide range of functions and parameters.
3 parameters are assigned to each knob, selectable via the [AMP/FILTER/PITCH] button ⓬.
Since the knobs allow continuous parameter control for the selected track, they can be used for creative real-time performance sound control.
The default assignments for these knobs are the main MIXER parameters. Refer to “Chapter 2: The Pattern mode”, page 69, for more information on the MIXER parameters.



[ATTACK] Knob

With the initial default settings, this knob provides real-time control of the AMPLITUDE EG, FILTER EG, or PITCH EG ATTACK parameter. The target EG is selected by the [AMP/FILTER/PITCH] button ⓬.

[DECAY] Knob

With the initial default settings, this knob provides real-time control of the AMPLITUDE EG, FILTER EG, or PITCH EG DECAY parameter. The target EG is selected by the [AMP/FILTER/PITCH] button ⓬.

[SUSTAIN] Knob

With the initial default settings, this knob provides real-time control of the AMPLITUDE EG, FILTER EG, or PITCH EG SUSTAIN parameter. The target EG is selected by the [AMP/FILTER/PITCH] button ⓬.

[RELEASE] Knob

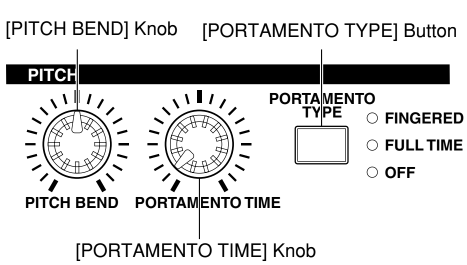
With the initial default settings, this knob provides real-time control of the AMPLITUDE EG, FILTER EG, or PITCH EG RELEASE parameter. The target EG is selected by the [AMP/FILTER/PITCH] button ⓬.

⓬ [AMP/FILTER/PITCH] Button

Selects the parameter to be controlled by the LFO and EG knobs. The indicator light in sequence each time the button is pressed, indicating the currently selected parameter: AMP → FILTER → PITCH → AMP, etc.

⓭ PITCH Knobs

In addition to the functions described here, these knobs are fully assignable and can be set up to control a wide range of functions and parameters.
Since the knobs allow continuous parameter control for the selected track, they can be used for creative real-time performance sound control.
The default assignments for these knobs are the PITCH BEND and PORTAMENTO TIME parameters.



[PITCH BEND] Knob (Page 101)

With the initial default settings, this knob provides real-time control of PITCH BEND.

[PORTAMENTO TIME] Knob (Page 100)

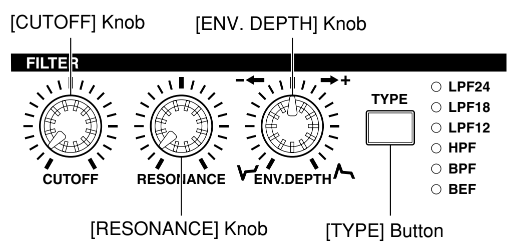
With the initial default settings, this knob provides real-time control of the PORTAMENTO TIME parameter.

[PORTAMENTO TYPE] Button (Page 100)

Selects the PORTAMENTO type. The settings are selected in sequence each time the button is pressed.

⓮ FILTER Knobs

In addition to the functions described here, these knobs are fully assignable and can be set up to control a wide range of functions and parameters.
Since the knobs allow continuous parameter control for the selected track, they can be used for creative real-time performance sound control.
The default assignments for these knobs are the main FILTER parameters.



[CUTOFF] Knob (Page 103)

With the initial default settings, this knob provides real-time control of filter CUTOFF.

[RESONANCE] Knob (Page 103)

With the initial default settings, this knob provides real-time control of filter RESONANCE.

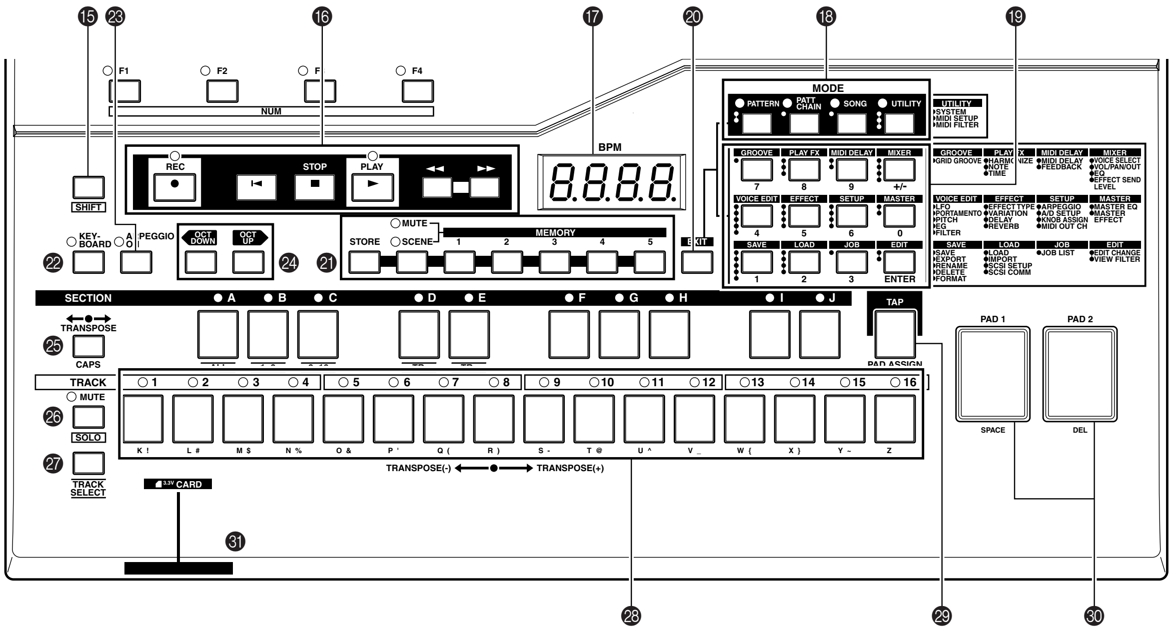
[ENV. DEPTH] Knob (Page 103)

With the initial default settings, this knob provides real-time control of filter ENVELOPE DEPTH.

[TYPE] Button (Page 103)

Selects the filter type. The settings are selected in sequence each time the button is pressed.

The Top Panel (Lower Section)

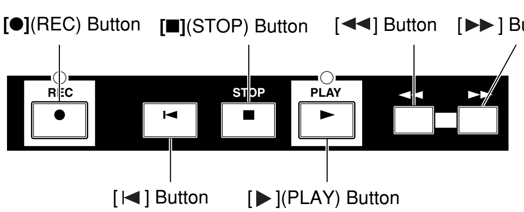


⓯ [SHIFT] Button

Access several secondary functions when used in conjunction with other buttons and controls.

⓰ Sequencer Buttons

The sequencer buttons control recording and playback in the PATTERN and SONG modes.



[●](REC) Button

Switches to the phrase or song recording display. The indicator will light when the button is press to engage the record standby mode.

[I◀](Top) Button

Goes directly to the top measure of the current pattern or song.

[■](STOP) Button

Stops pattern or song playback or recording.

[▶](PLAY) Button

Starts pattern or song playback, and starts phrase or song recording. When playback or recording is started, the [▶] button indicator flashes at the current BPM (the indicator lights continuously in the STEP recording mode).

[◀◀](Fast Reverse) Button

Moves back one measure when pressed briefly, or scrolls backward continuously (fast reverse) when held.

[▶▶](Fast Forward) Button

Moves forward one measure when pressed briefly, or scrolls forward continuously (fast forward) when held.

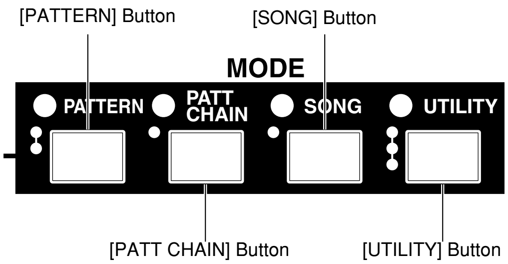
⓱ LED Display

Displays the current BPM or measure number. The LED display also briefly displays the current value set by a knob while the knob is operated.

Whether the LED display normally shows BPM or the measure number is determined by the setting in the UTILITY mode System page (Page 258).

⓲ MODE Buttons

Select the main RS7000 operating mode. The indicator above the selected MODE button will light.



[PATTERN] Button (Page 70)

Selects the PATTERN mode. The PATTERN Play and PATTERN Patch modes are selected alternately each time the button is pressed.

[PATT CHAIN] Button (Page158)

Selects the PATTERN CHAIN mode.

[SONG] Button (Page180)

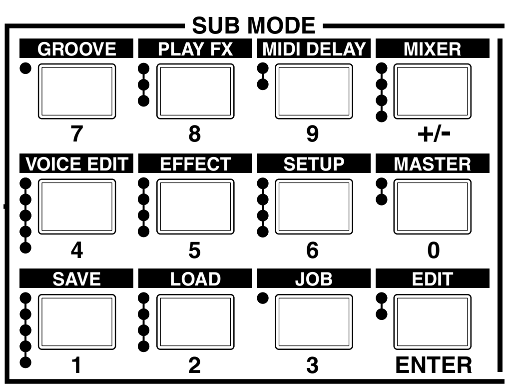
Selects the SONG mode.

[UTILITY] Button (Page256)

Selects the UTILITY mode. After entering the UTILITY mode the [UTILITY] button sequentially selects the various pages provided.

⓳ SUB MODE Buttons

These buttons access the various sub modes available within each of the main modes. When a sub mode includes more than on display page, the pages are sequentially selected each time the button is pressed.



[GROOVE] Button

Selects the GROOVE quantize sub mode.

[PLAY FX] Button

Selects the PLAY FX sub mode and the various display pages provided.

[MIDI DELAY] Button

Selects the MIDI DELAY sub mode and the various display pages provided.

[MIXER] Button

Selects the MIXER sub mode and the various display pages provided.

[VOICE EDIT] Button

Selects the VOICE EDIT sub mode and the various display pages provided.

[EFFECT] Button

Selects the EFFECT sub mode and the various display pages provided.

[SETUP] Button

Selects the SETUP sub mode and the various display pages provided.

[MASTER] Button

Selects the MASTER sub mode and the various display pages provided.

[SAVE] Button

Selects the SAVE sub mode and the various display pages provided.

[LOAD] Button

Selects the LOAD sub mode and the various display pages provided.

[JOB] Button

Selects the PATTERN, PATTERN CHAIN, or SONG JOB sub mode and the various display pages provided.

[EDIT] Button

Selects the PATTERN, PATTERN CHAIN, or SONG EDIT sub mode and the various display pages provided.

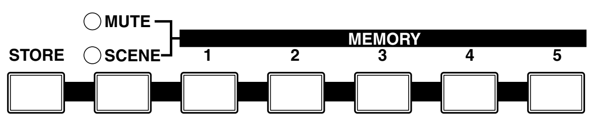
⓴ [EXIT] Button

Moves backward (upward) through the sub mode display pages, or out of the current sub mode back to the main mode.

㉑ SCENE/MUTE Buttons

Up to 5 complete scene and mute setups can be stored in memory and recalled at the touch of a button.
A “scene” includes all parameter settings for all tracks (all knob settings and mute on/off settings). A mute setup includes the mute on/off status for all tracks.
The ability to store and instantly recall complete scene and mute setups means that even complex setups that would take a considerable amount of time to program in real time can be called up at the touch of a button. Recall operations can be recorded to pattern chains and songs as well.

> **NOTE**
> - Scenes do not include sequence data.
> - Scene/mute setups cannot be stored during sequence recording. Store operations are possible during playback.



[STORE] Button

Store the current scene or mute settings to one of the 5 available memory locations: [MEMORY 1] ~ [MEMORY 5]. The selected type of data is stored when a scene/mute memory button — [MEMORY 1] ~ [MEMORY 5] — is pressed while the [STORE] button is held.

[SCENE/MUTE] Button

Switches between the scene and mute memory functions. The SCENE and MUTE indicators light alternately each time the button is pressed.

[MEMORY 1] ~ [MEMORY 5] Button

Used in conjunction with the [STORE] button (see above) to store scene or mute setups, and when pressed alone these buttons recall the stored scene or mute data.

㉒ [KEYBOARD] Button

Determines whether the RS7000 keyboard is to be used as a music keyboard (i.e., to play notes). When you press the [KEYBOARD] button so that its indicator lights, the keyboard will function as a music keyboard to play notes. If you press the button once again so that the indicator goes dark, the keyboard can be used to select sections, to select tracks, or as track mute buttons.

㉓ [ARPEGGIO ON] Button

Turns the RS7000 automatic arpeggio feature on or off. The [ARPEGGIO ON] button indicator will light when the ARPEGGIO feature is on, and notes played on the keyboard will be played as an arpeggio. To turn the arpeggio function off press the button again so that its indicator goes out.

㉔ [OCT DOWN] and [OCT UP] Buttons

The [OCT DOWN] and [OCT UP] buttons allow the pitch of the keyboard to be shifted down or up in octave steps. Press both buttons simultaneously to return to normal pitch. The current amount of octave shift is indicated on the LCD display. (Page 73)

㉕ [TRANSPOSE] Button (Page 73)

Used in conjunction with the keyboard to transpose the overall pitch. Transposition is set by holding the [TRANSPOSE] button and pressing the key on the keyboard corresponding to the desired amount of transposition above or below the E (track 8) key. While the [TRANSPOSE] button is held the E indicator will light and the indicator of the selected transpose key will flash. To transpose by more than an octave first press the [OCT UP] or [OCT DOWN] button and then the keyboard.

㉖ [MUTE] Button (Page 74)

This button is used to make track mute settings and solo settings.To make mute settings, press the [MUTE] button to make the indicator light. To make solo settings, hold down the [SHIFT] button and press the [MUTE] button to make the indicator flash. When you do so, the keyboard pad indicators (white keys) corresponding to tracks that contain data will light, and pressing one of these keys will engage the mute or solo function for that track, causing the indicator to flash. Press the same key again to disengage the mute function for that track. To disengage the solo function, press the [MUTE] button.

㉗ [TRACK SELECT] Button (Page 67)

Used in conjunction with the keyboard to select a track for recording or other operations. Tracks are selected by pressing the appropriate white key on the keyboard while holding the [TRACK SELECT] button.

㉘ Keyboard

The keyboard is used like a conventional keyboard to enter performance data, as well as to select sections, select tracks, mute and solo tracks, set transposition, and more. Normally the number “6” key corresponds to middle C. The keyboard does not respond to velocity or aftertouch.

㉙ [TAP] Button

Tap this button at the desired tempo to automatically set the BPM.

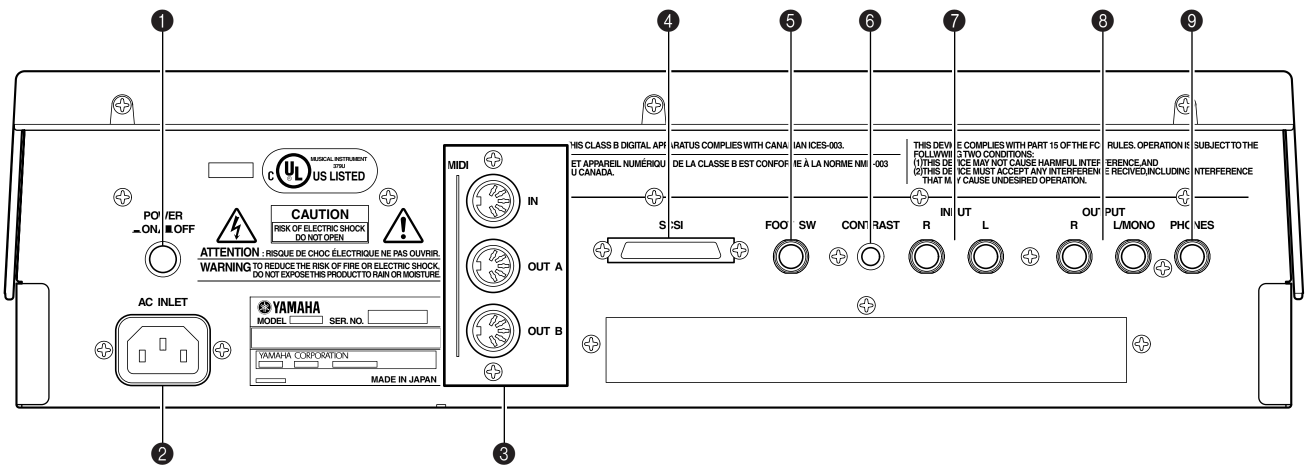
㉚ [PAD 1] and [PAD 2]

Velocity-sensitive pads for performance data entry. Tapping these pads enters the pre-specified note data at the specified pitch. The pitch for each pad can be set by playing the appropriate key on the keyboard while holding the [TAP] button and [PAD 1] or [PAD 2].

㉛ CARD Slot

Slot for memory card insertion.

The Rear Panel



❶ POWER Switch

Press in to turn the RS7000 on, and press again to turn it off.

❷ AC INLET

The AC power cable supplied with the RS7000 is plugged in here. Use only the supplied cable.

❸ MIDI IN, OUT A, and OUT B Connectors

If you plan to use a MIDI keyboard or other instrument to play and program the RS7000, it should be connected to the MIDI IN connector.

The MIDI OUT A and B connectors can be connected to an external tone generator or synthesizer if you want to transmit performance data, button and knob operations, and pad operations to external equipment from the RS7000.

❹ SCSI Connector

External SCSI storage devices (hard disks, CD-ROM drives, etc.) can be connected here. The connector is a 50-pin half-pitch type.

❺ FOOT SW Jack

An optional Yamaha FC4 or FC5 footswitch connected to this jack can be used for start/stop, section selection, sustain, or tap BPM entry.

❻ CONTRAST Control

Use the CONTRAST control to achieve the best LCD display visibility (LCD visibility varies with viewing angle).

❼ INPUT L and R Jacks

Analog mono or stereo signals can be connected here for sampling (recording). Connect mono signals to either the L or R jack.

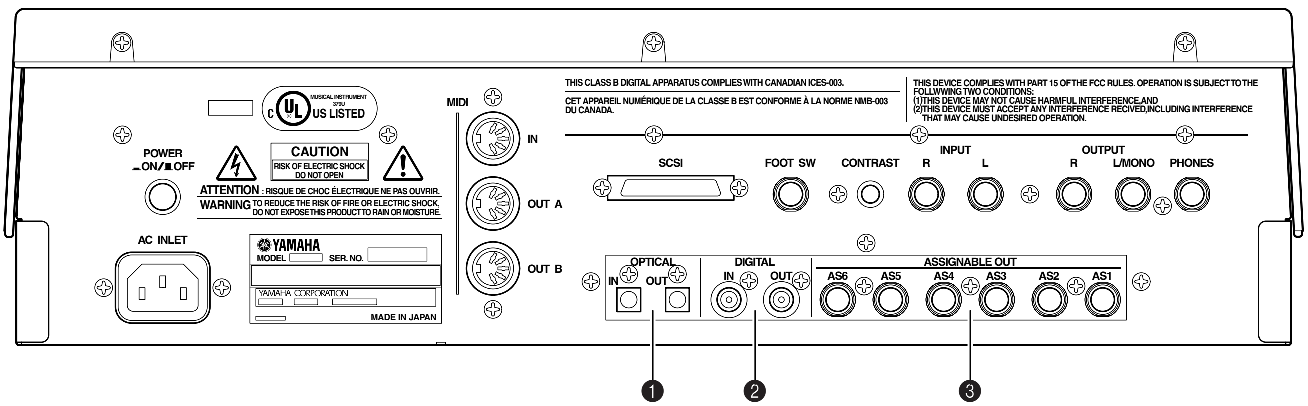
❽ OUTPUT L/MONO & R Jacks

These are the main stereo outputs from the RS7000. When a plug is inserted into only the L/MONO output, the left- and right-channels signals are mixed and delivered via that output to allow direct connection to mono sound systems.

❾ PHONES Jack

Any pair of stereo headphones with a 1/4” stereo phone plug can be plugged in here for convenient monitoring. The PHONES output level is adjusted via the MASTER VOLUME control.

Rear Panel with Optional AIEB2 I/O Expansion Board Installed



❶ OPTICAL IN, OUT Connectors

Digital input and output for connection via optical cable. Digital signals to be recorded (48 kHz, 44.1 kHz, or 32 kHz fs) can be connected to OPTICAL IN. OPTICAL OUT delivers the same signal as the OUTPUT L/MONO and R jacks in digital form (fs = 44.1 kHz).

❷ DIGITAL IN, OUT Connectors

Digital input and output in S/P DIF format (the format normally used by home-use CD or DAT equipment) for connection via coaxial (RCA-pin) cable. Digital signals to be recorded (48 kHz, 44.1 kHz, or 32 kHz fs) can be connected to DIGITAL IN. DIGITAL OUT delivers the same signal as the OUTPUT L/MONO and R jacks in digital form (fs = 44.1 kHz).

❸ ASSIGNABLE OUT 1 ~ 6 Jacks

Unlike the STEREO OUT outputs, the output from individual tracks can be assigned to these outputs. (Page 21)

The ASSIGNABLE OUT jacks can be used as mono outputs or as stereo pairs (1&2, 3&4, 5&6).

Options

A range of options are available to give the RS7000 even greater music production capabilities.

Expansion Memory (SIMM)

Recorded samples and samples loaded from memory card must be stored in the internal memory in order to be played.

The RS7000 comes equipped with 4 MB of memory which allows up to 46 seconds of monaural sample recording or playback at the maximum 44.1 kHz sampling frequency. Additional memory (SIMM) can be installed to allow much longer sample recording and playback. If you need longer sample recording and playback time, or want to keep a large number of samples in memory at the same time, you may need to add extra memory. See page 274 of the Appendix for details on installing extra memory.

Precautions for Purchasing Expansion SIMM Memory

Some types of commonly available SIMM memory may not work properly with the RS7000, and we cannot guarantee operation with untested memory types. Please check with the retail outlet where you purchased your RS7000, or an authorized Yamaha representative, before purchasing expansion SIMM memory.

IMPORTANT

- Use only 4, 8, 16, or 32 megabyte 72-pin SIMMs with an access time faster than 70ns. x32bit SIMMs are the standard, but x36bit types (with parity) can also be used.
- Always install SIMMs in pairs of the same capacity. A single SIMM will not work.
- The RS7000 comes with 4 megabytes of pre-installed sample memory. Thus if you install a pair of 16 megabyte SIMMs (32 megabytes total) you will have 36 megabytes (32 + 4 megabytes) of sample memory. However, since the maximum allowable sample memory for the RS7000 is 64 megabytes, if you install a pair of 32 megabyte SIMMs (64 megabytes total) the initial 4 megabytes will not be used.
- SIMMs which use more than 19 memory chips per unit may not function properly with the RS7000. Please choose SIMMs which use 18 or fewer memory chips.
- We recommend SIMMs which conform to JEDEC* standards. However, even though a SIMM which conforms to the JEDEC internal circuit configuration functions perfectly in a computer, there is no guarantee that it will work properly with the RS7000.

*JEDEC stands for the “Joint Electron Device Engineering Council”, a group which sets standards for the configurations of electronic devices.

AIEB2 I/O Expansion Board

Initially the RS7000 can only record samples from analog sources, and only analog output capability is provided. With the optional AIEB2 I/O Expansion Board, however, you gain optical and coaxial terminals for direct digital signal input and output. Also, 6 assignable outputs (ASSIGNABLE OUT 1 ~ 6) are provided in addition to the standard OUTPUT jacks.
Refer to page 276 in the Appendix for details on installing the AIEB2 I/O Expansion Board.

NOTE

The AIEB1 expansion I/O board cannot be used.

Notes on Musical Copyright

The RS7000 supports SCMS (Serial Copy Management System) to protect the copyrights of music software.
Data that was digitally sampled from a CD or other source cannot be saved to a memory card or SCSI disk in WAV format, or transferred via the TWE wave editor as sample data. If you wish to save this data, you must save it in the RS7000’s own format.

It is prohibited to use copyrighted songs and sound data (that can be recorded via the RS7000) for commercial purposes. It is also prohibited to reproduce, transfer, or distribute the data, or play the data for a commercial audience without permission from the owners of the copyright, except for personal use or application that does not infringe the copyright. If you wish to use such data for occasions other than personal use, consult a copyright expert. Yamaha is not responsible for any data created, reproduced, or edited using the RS7000, nor for any reproduction or use of such data.

Preparation and Setup

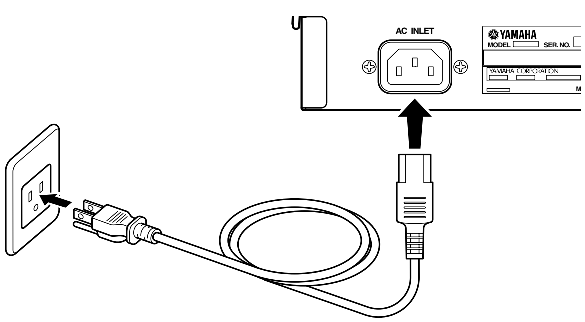
Power supply and other equipment connections will be described in this section.

Power Connection

⚠ WARNING

- Be sure that the RS7000's power switch is OFF before you connect the cord.
- Make sure your RS7000 is rated for the AC voltage supplied in the area in which it is to be used (as listed on the rear panel). Connecting the unit to the wrong AC supply can cause serious damage to the internal circuitry and may even pose a shock hazard!
- Use only the AC power cord supplied with the RS7000. If the supplied cord is lost or damaged and needs to be replaced, contact your Yamaha dealer. The use of an inappropriate replacement can pose a fire and shock hazard!
- The type of AC power cord provided with the RS7000 may be different depending on the country in which it is purchased (a third prong may be provided for grounding purposes). Improper connection of the grounding conductor can create the risk of electrical shock. Do NOT modify the plug provided with the RS7000. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use a plug adaptor which defeats the grounding conductor.
- The RS7000 is designed for use with a grounded line (three-prong outlet). The power cord includes a grounding pin to prevent electrical shock and damage to equipment.

Connect the supplied power cord to the AC inlet on the rear panel. Then plug the other end of the cord into a 3-prong wall outlet.



Connecting to Audio Equipment

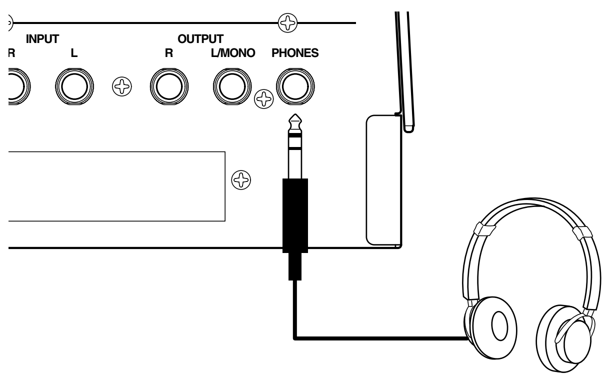
⚠ CAUTION

Connections with external equipment must be made with the power of the RS7000 and peripheral equipment turned off. Making connections with the power on may damage your amp or speakers.

The RS7000 has no internal amplifier or speakers of its own. To monitor the sound of the RS7000, connect headphones, powered speakers, or other playback equipment as required.

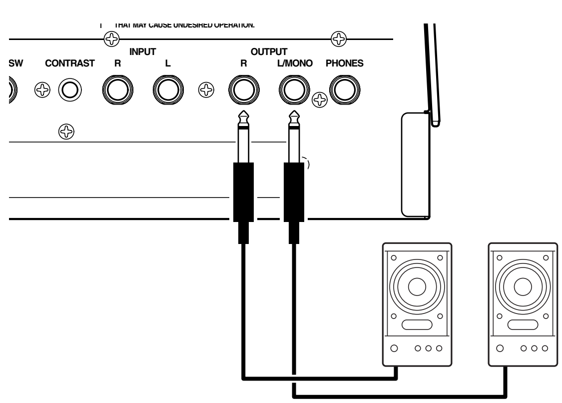
■ Headphones

If you are using headphones, connect them to the rear panel PHONES (headphones) jack. When using headphones, adjust the MASTER VOLUME control to an appropriate level that will not harm your hearing. The rear-panel OUTPUT L/MONO and R jacks are active even when headphones are connected.



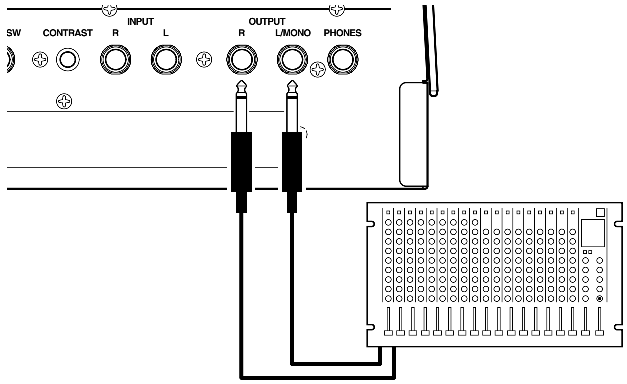
■ Powered Speakers

Connect a pair of powered speakers (such as the Yamaha CBX-S3) to the output jacks (L/MONO, R) using appropriate connection cables. If you are connecting only one powered speaker, use the L/MONO jack.



■ Connecting to a Mixer

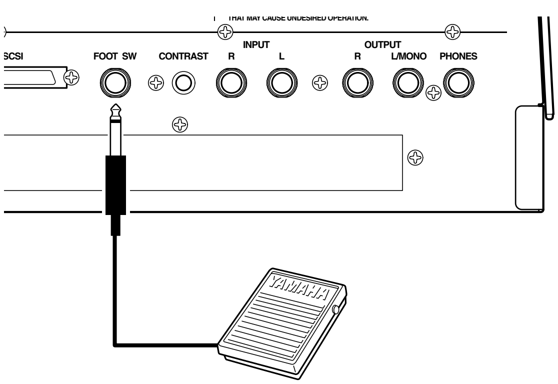
Connect the output jacks (L/MONO, R) to two channels of the mixer. The channel connected to the L/MONO jack should be panned left, and the channel connected to the R jack should be panned right.



> **⚠ CAUTION**
>
> Do not connect the output jacks of the RS7000 to the mic input jacks of an amp or cassette deck etc. If they are connected to mic inputs, the sound quality may be impaired, and the device may be damaged. Also, when connecting the RS7000 to a mixer or similar device, set the mixer channels to Line Input sensitivity.

Connecting a Footswitch

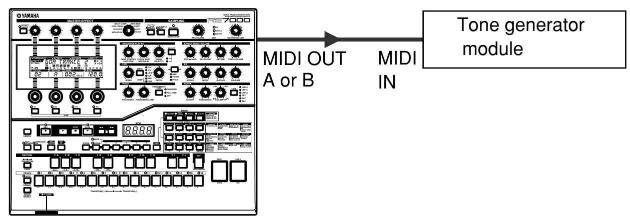
When using an optional FC4 or FC5 footswitch, insert the footswitch plug into the FOOT SW jack located on the rear panel. The footswitch function is determined by the UTILITY mode SYSTEM page FOOT SWITCH parameter (Page 257).



Connecting External MIDI Devices

■ Connecting a tone generator module

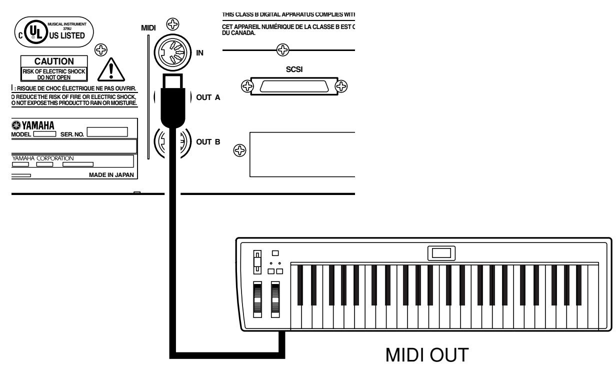
RS7000 sequence playback data can be used to play an external tone generator module. Use a MIDI cable to connect the MIDI OUT connector on the rear panel to the MIDI IN connector of the external MIDI device.



■ Connecting a MIDI keyboard

Real-time recording input will be easier if you use a MIDI keyboard.

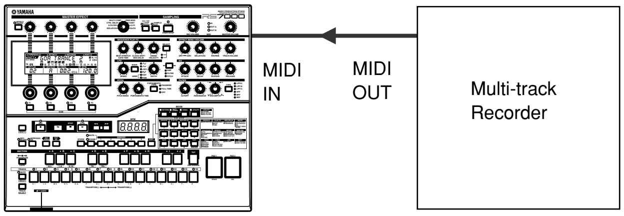
Use a MIDI cable to connect the MIDI OUT of the external MIDI keyboard to the MIDI IN connector on the rear panel.



■ Connecting to an MTR (Multi-track Recorder)

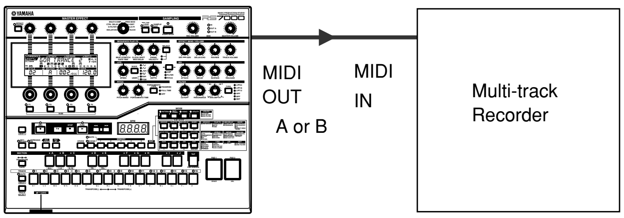
Since the RS7000 implements MTC (MIDI Time Code) and MMC (MIDI Machine Control), you can produce music while synchronized to a MTC- or MMC-compatible multi-track recorder. The RS7000 does not generate MTC on it's own, so you'll need an optional MTC device such as the Yamaha AW4416. Use MIDI cables to connect the MIDI OUT connector of the RS7000 to the MIDI IN connector of the MTR, and the MIDI IN connector of the RS7000 to the MIDI OUT connector of the MTR. The RS7000 will sync to the MTC clock signal received from the external device. If your MTR recognizes MMC, then the start/stop, fast forward and rewind functions can be remotely controlled from the RS7000. In this case go to the UTILITY mode MIDI page and set the MIDI Sync parameter to "MTC" (Page 260).

RS7000 Synchronized to External MTC



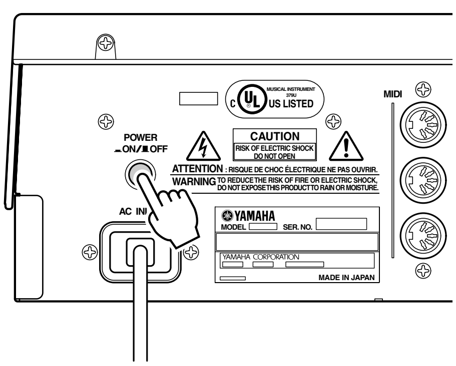
* In this case MTC must be sent to the RS7000 from an external MIDI device.

RS7000 Controlling External Device via MMC



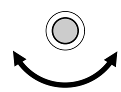
Turning Power On and Off

1. Make sure all peripheral equipment is properly connected to the RS7000, and turn all audio volume controls down to minimum.
2. Turn the RS7000 power on after the peripheral devices.



3. Turn the power to audio equipment on, then turn the RS7000 and audio volumes up to a reasonable listening level.

4. If the display is not easily visible, use the CONTRAST control to adjust for optimum visibility.



5. Always turn the RS7000 power off after turning the volume all the way down or turning off all connected audio equipment.

⚠ CAUTION

The RS7000 system setup data is retained in memory by a backup battery. When the backup battery runs low, the “Backup Battery Low!” warning will appear in the display. If the battery runs down completely, the contents of memory will be lost. If the “Backup Battery Low!” warning appears, immediately save the data to a memory card (Smart Media) or an external SCSI disk, and then have the backup battery replaced by the qualified Yamaha service personnel.

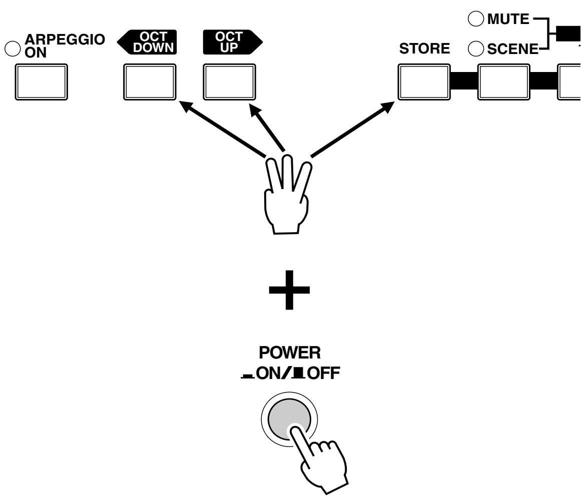
Restoring the Initial Factory Settings

The original RS7000 factory settings can be restored as follows.

> ⚠
>
> When the factory settings are restored, all the voice and sequence data you created as well as the system setup data will be erased. Be sure to save all important data to memory card (Smart Media) or SCSI disk (Page 114, 166, 204) before performing this procedure.

[Procedure]

1. Turn the power OFF.
2. Turn the power ON while holding the [OCT DOWN], [OCT UP] and [STORE] buttons.



Tutorial

Although all the information you need to operate the RS7000 is available in the reference section of this manual, you might want to take the time to go through the tutorial in order to familiarize yourself with some of its most important features in a step-by-step "linear" manner.
The tutorial is presented in 6 sections, outlined below, each of which builds on the information presented in the previous section.

1. RS7000 System Overview 28
A quick look at the overall RS7000 system and what it can do.

2. Assemble a Pattern Using Preset Phrases 30
The fast, easy way to create patterns. Here we'll create a pattern that we'll build on in the following sections.

3. Real-time Sound Control 38
A quick detour to try out some of the RS7000's awesome real-time control capabilities.

4. Recording Original Phrases....................... 39
Record an original phrase and add it to the basic pattern we created in section 2.

5. Add Samples 43
Record a new sample and add it to our pattern.

6. Finalizing Your Sound 46
The final mix — fine-tuning the groove and adding effects.

Please note that the tutorial by no means covers all the capabilities and features of the RS7000. Important functions which are not included in the tutorial — the SONG, EDIT and UTILITY modes, to name a few — are described in detail in the reference section of the manual. Use the table of contents and index to find detailed information on the features and functions you want to learn about. The same applies to features described here in the tutorial: for full details on any feature, refer to the reference section.

1. RS7000 System Overview

The Yamaha RS7000 brings it all together. Everything you need for professional-level music production — particularly in dance, techno, R&B, and ambient genres — is included and flawlessly integrated in a system that has been specifically designed to facilitate modern production techniques. The RS7000 combines a powerful, flexible sequencing system with a state-of-the-art tone generator loaded with an awesome selection of drum kits and voices, and a sampler which allows you to sample your own sounds and loops and easily incorporate them into your sequences. All of this is brought together with an interface that is intuitive and easy while offering the depth and real-time control required by professional applications.

Powerful 16-track Sequencer

In the phrase-based PATTERN mode, complete patterns can be quickly assembled by combining individual phrases from the 5980 preset phrases provided, or you can record your own using the extensive selection of drum kits and other voices provided by the internal AWM2 tone generator. Sampled sounds, loops and break-beats can just as easily be added to the sequence to create the groove your music demands. Your patterns can be used individually, or the PATTERN CHAIN mode can be used to automatically sequence specified patterns to create even complex arrangements.
There's also a SONG mode which functions as a 16-track sequencer with all the features and versatility you'd expect from a full-blown stand-alone sequencer.

Real-time Control

Another key requirement for creative freedom in modern music production is real-time sound control. The RS7000 offers plenty of sonic manipulation capability with a comprehensive range of knobs for hands-on control of BPM, filter parameters, envelopes, pitch, LFO, and more. The RS7000 also features a keyboard and velocity-sensitive pads that allow voices and samples to be played in real time, as well as switching between sequence sections and tracks, and controlling the track mute and solo functions. Scene and mute memory functions can be used to take "snapshots" of track mute setups or complete panel-control setups for instant recall when needed.

Advanced Sampling and Editing Features

In addition to directly loading sample data in a variety of popular formats, the RS7000 allows you to record your own samples from CDs or any line-level or microphone source. Once your samples are recorded they can be trimmed, sliced, looped, and otherwise prepared for playback with the power and flexibility you'd expect from a stand-alone sampler. And when your samples are ready, they can be incorporated into patterns and songs just as easily as the tone-generator voices. You can even use the sampler to record vocal parts to take your project right up to the final production stage without using any equipment other than the RS7000.

AWM2 Tone Generator

Even electronic sounds change with the times, and the RS7000 is right up to date. The internal AWM2 tone generator system offers more than 63 top-quality drum kits as well as 1054 pitched voices and sound effects — you'll find what you need for just about any musical genre. You also have a range of voice editing functions that make it easy to customize and personalize the sound to bring your art to life.

An Extensive Range of Effects

In today's music effects are almost as important as the sounds they are applied to. The RS7000 offers plenty of sound processing power with PLAY FX which function at the sequencing stage to provide harmonization as well as note and timing variations; a three-stage DSP effect system with VARIATION, DELAY/CHORUS, and REVERB effects; and a MASTER EFFECT stage that offers a range of up-to-date effects for the overall sound.

In Depth Jobs and Editing

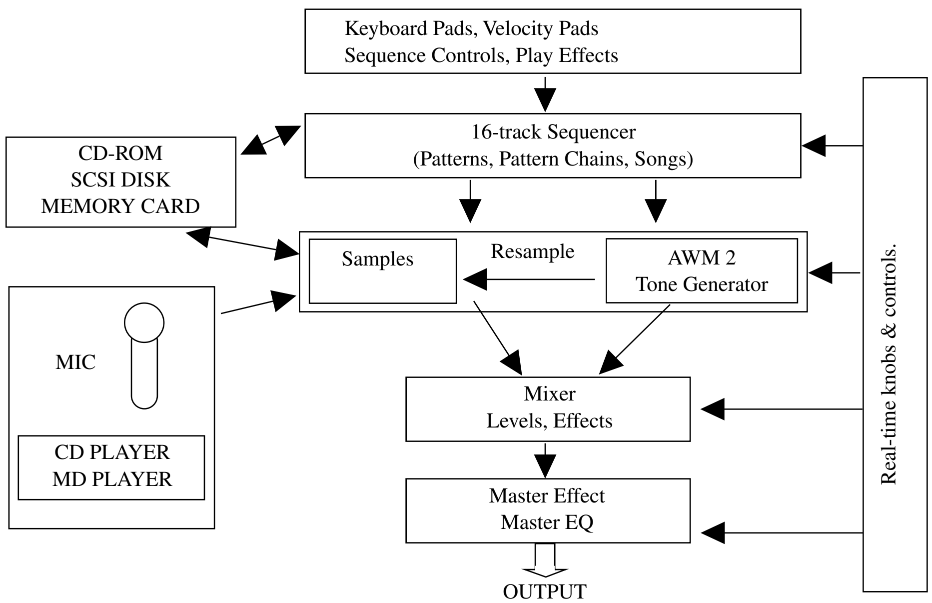
Creating sequences that sound just right can be a tricky business, but the RS7000 makes the job as smooth and easy as possible with an extensive selection of jobs and editing functions. There's GRID GROOVE, for example, to give your tracks the kind of groove and feel that straightforward sequencing simply can't achieve. In the RS7000 this flexible feature works with sliced samples — the RS7000 will also automatically "slice" your break-beat samples into individual beat segments — as well as tone-generator data for unprecedented "feel" control. Another sampling feature that offers hands-on creative control is REAL TIME LOOP REMIX — a powerful and easy way to remix your sampled and sliced loops while monitoring them in real time. Then there are jobs to automatically create glides, rolls, crescendos, and other subtleties that can make a huge difference to the musical mood. If you can image it, the RS7000 can probably do it. And when you want to really make detailed refinements, the EDIT mode gives you direct access to individual note and event parameters.

Memory Card (SmartMedia™*) Storage & SCSI Expandability

Sequences, phrases, and samples can be conveniently stored on compact, high-capacity memory cards, or on a variety of external SCSI storage media (hard disk, MO, ZIP, etc.) connected to the RS7000's SCSI port. You can also connect read-only devices such as a CD-ROM drive to conveniently load samples and other data.
* SmartMedia is a trademark of Toshiba Corporation.

I/O Expansion

The optional AIEB2 I/O expansion board can be installed in the RS7000 to provide 6 additional individual analog outputs as well as both coaxial and optical digital input and output.



2. Assemble a Pattern Using Preset Phrases

Let's begin the "hands-on" portion of our tutorial by discovering just how easy it is to create great-sounding grooves by selecting and combining a few of the RS7000's preset phrases. The RS7000 provides an enormous database of 5980 preset phrases … just image the number of possible combinations. Also keep in mind the fact that once you've assembled the basic pattern, there are still countless ways in which the details can be changed to make the sound your own.

Definition: Patterns & Phrases

• Patterns

An RS7000 "pattern" is a musical segment between one and 256 measures in length and consisting of as many as 16 individual tracks. Each "track" can be approached as a separate "part" of the pattern: e.g. a bass drum part, a cymbal part, a synthesizer bass part, a sampled loop, etc. The patterns are further organized into "sections" and "styles". The RS7000 has memory for up to 1,024 patterns organized as 64 styles, each with 16 sections labeled "A" through "P", alphabetically.

PATTERN

TRACK 1: Phrase 1 — [e.g. bass drum]
TRACK 2: Phrase 2 — [snare or percussive effect]
TRACK 3: Phrase 3 — [synth bass]
TRACK 4: Phrase 4 — [sampled loop]
:
:
TRACK 16: …

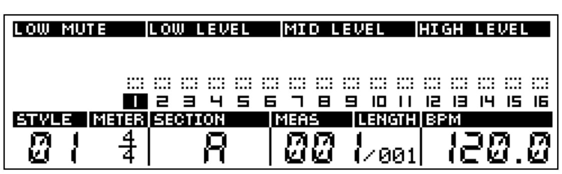
• Phrases

Phrases are essentially pre-programmed "parts" for your patterns. The RS7000 comes with loads of preset drum and percussion phrases. All you have to do is select a pattern track, select the phrase you want to assign to that track, then repeat for as many tracks as you need. Of course, you can record your own phrases for use in patterns, too. Phrases can use voices from the RS7000's internal tone generator, or samples in the RS7000's sample memory.

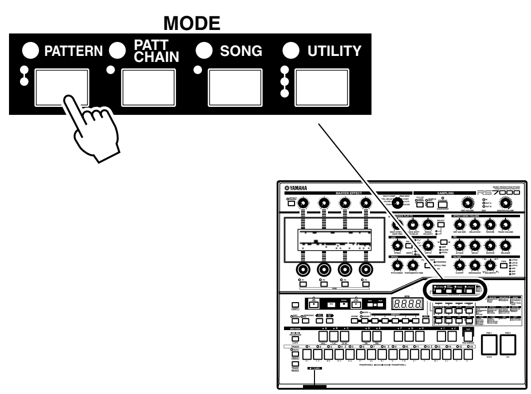
Procedure

1 Engage the PATTERN Play mode

If the PATTERN Play mode isn't already selected, press the [PATTERN] button to select it.



PATTERN Play



2 Select a STYLE

Use [Knob 1] to select the "STYLE" (i.e. the group of 16 "sections" — if you're not sure what we're talking about here, go back and review the "Definitions" sidebar, above) that you want to record. STYLE numbers range from "01" through "64". For our tutorial, select STYLE 01.

3 Select a SECTION

Use [Knob 2] to select the “SECTION” of the selected STYLE (“A” through “P”) you want to record. For our example, select section A.

Hint

When assigning sections it is a good idea to do so in some kind of logical order so you can remember what’s what, particularly if you’re going to be switching sections in real time. Generally, the different sections within a style will be the various sections of a complete composition or dance groove. You might want to record the intro in section A, the main “verse” in section B, a fill in section C, the “chorus” in section D, and so on.

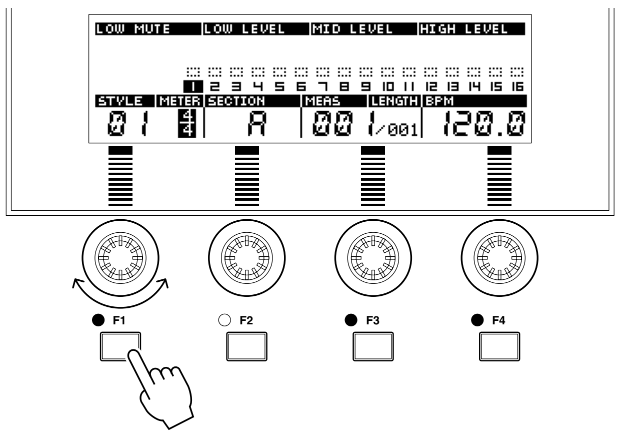
An Alternative Track Selection Method

When the [KEYBOARD] button indicator is out (press the [KEYBOARD] button if it is lit), the black keys on the RS7000 keyboard can be used to directly select sections “A” through “J” — note the labels above the black keys.

4 Set the Pattern’s METER (if necessary)

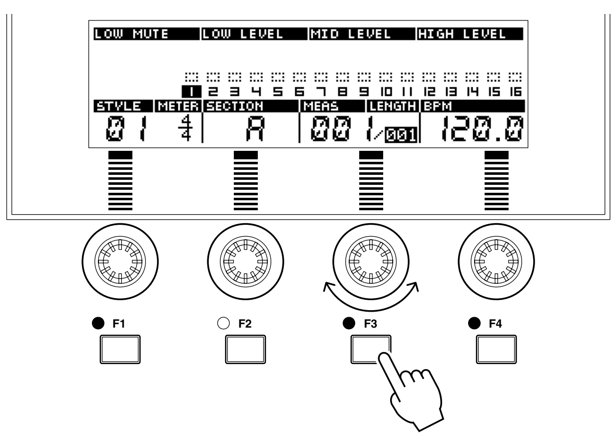
“Meter” is another term for “time signature”. Since our tutorial pattern is in 4/4 time (the default), there’s no need to set the meter, but when you do want to create pattern in a different meter, here’s how:

Press the [F1] function button so that the METER parameter on the display is highlighted. Then use [Knob 1] to select the desired meter.



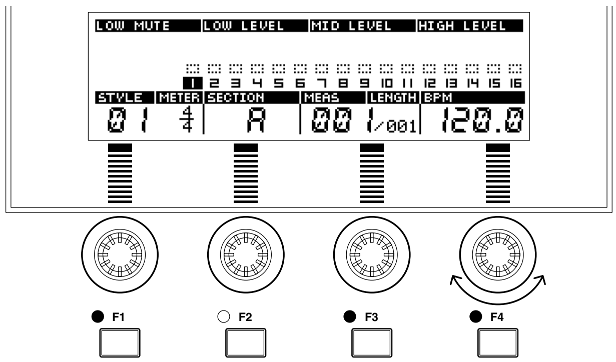
5 Set the Pattern’s LENGTH (if necessary)

To set the pattern’s length in measures press the [F3] function button so that the LENGTH parameter on the display is highlighted, then use [Knob 3] to select the desired length (001 through 256). For our example the pattern will be one measures long, so select “001” if LENGTH is not already set to this value.



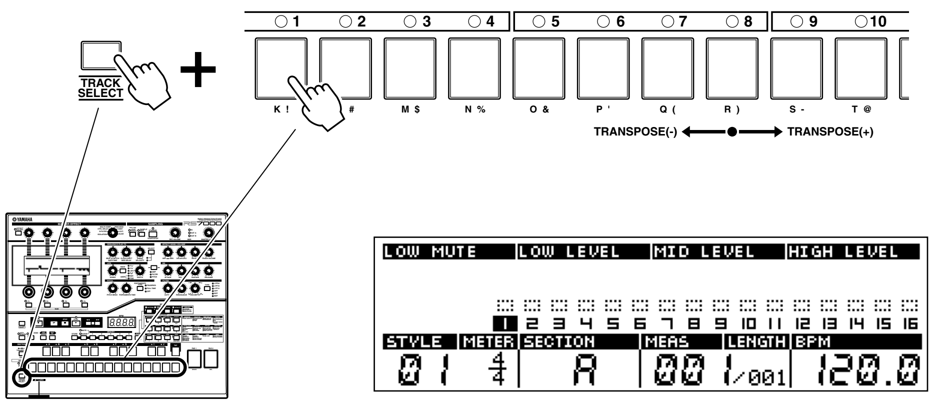
6 Set the Approximate BPM

The BPM (beats per minute) setting can be changed at any time (even in real-time during playback), but it's a good idea to set the approximate final BPM at this stage to get a better feel for how the pattern will sound when finished.
To set BPM, simply rotate [Knob 4].
Our tutorial pattern is designed to be played at a BPM of about 120.



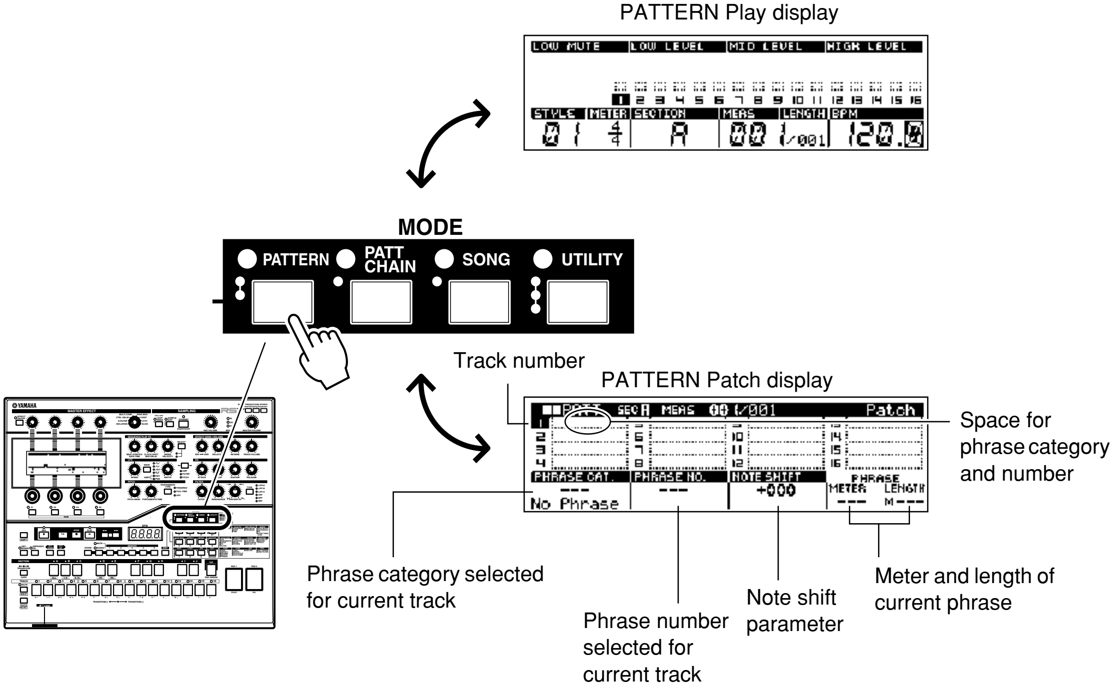
7 Select a Track

Select the track you want to assign a phrase to via the RS7000 keyboard: Press the lower key (white or gray) corresponding to the desired track number (1 through 16) while holding the [TRACK SELECT] button. The keyboard LED corresponding to the currently active track will flash while the [TRACK SELECT] button is held. When a track is selected the corresponding track number in the LCD PATTERN Play display is highlighted.
Track 1 is a logical place to start, so select track 1.



8 Switch to the PATTERN Patch Mode

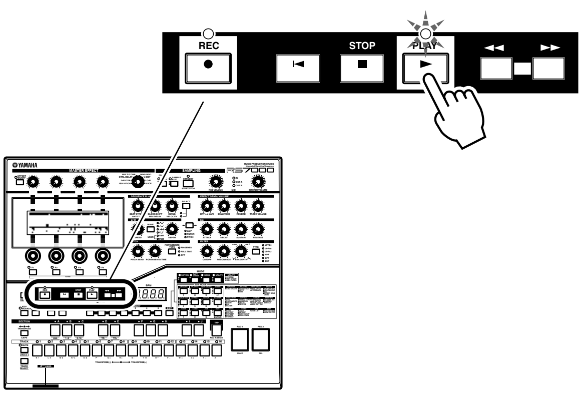
Phrases are assigned to the pattern tracks via the PATTERN Patch display. Select the PATTERN Patch display by pressing the [PATTERN] button (the [PATTERN] button alternately selects the main PATTERN Play display and the PATTERN Patch display).



Note that the PATTERN Patch display shows all 16 tracks with spaces to the right of each track number for the specified phrase category and number. As in the PATTERN Play display, the number of the currently active track is highlighted. You can change tracks while the PATTERN Patch display is showing in the same way that you change tracks in the main PATTERN display: press the appropriate white or gray key on the RS7000 keyboard while holding the [TRACK SELECT] button.

9 Press the [PLAY] Button

Press the [PLAY] button. You won't hear anything yet, because we haven't selected any phrases, but the [PLAY] LED will flash at the currently selected BMP indicating that playback is in progress.

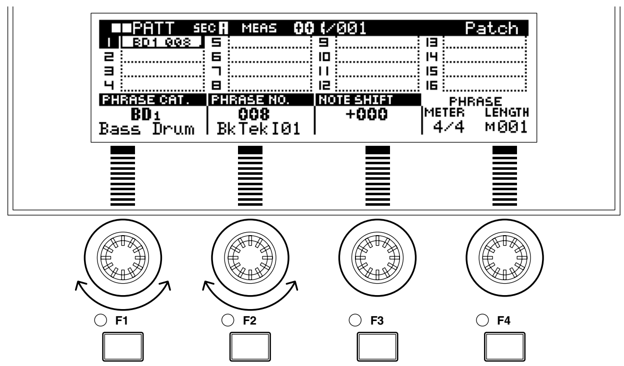


PLAY LED flashes at current BPM during playback.

10 Select a Phrase for the First Track

The preset RS7000 phrases are organized into categories. Take a look at the Phrase Category List on page 313 for a complete list of the phrase categories. To select a phrase you will need to specify both its category and number.

Use [Knob 1] to select the phrase category, and [Knob 2] to select the phrase number for the first track. For our example, select the "BD1" phrase category and phrase number "008". This phrase will provide the rhythmic foundation for our pattern. Since the sequencer is in the PLAY mode, you'll hear the phrase as soon as you select it.



11 Select the Next Track

Select the next track (track 2 for our example) in the same way as you selected the first track: press the appropriate white or gray key on the RS7000 keyboard while holding the [TRACK SELECT] button.

12 Select a Phrase for Track 2

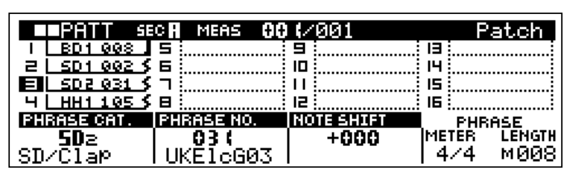
Select the "SD1" phrase category and phrase number "002" for track 2 in the same way that you selected the phrase for track 1 in step 10, above.

13 Select the Phrases for the Remaining Tracks

Just two more tracks to go. Select the tracks and phases listed below by repeating steps 11 and 12, above.

The Phrase Selections for STYLE 01, SECTION A

Track 1	Phrase: BD1 008
Track 2	Phrase: SD1 002
Track 3	Phrase: SD2 031
Track 4	Phrase: HH1 105



14 Create a New Section

Now you know the procedure, create a new section which uses phrases listed in the chart below rather than those we used in section A.

Select section B for the new pattern. You can do this either by returning to the PATTERN Play display (press the [PLAY] button) and using [Knob 2], or you can select the new section directly via the RS7000 keyboard while in either the PATTERN Play or PATTERN Patch display: press the [KEYBOARD] button so that its indicator goes out, then press the black key on the keyboard corresponding to section B (note that the black keys are labeled with section names "A" through "J").

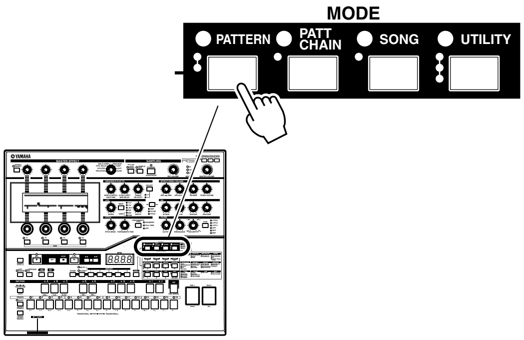
Either way, the rest of the procedure is the same as described above: select the tracks and assigned the appropriate phrases to each one.

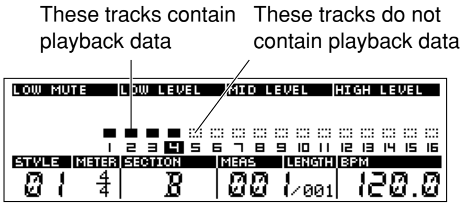
The Phrase Selections for STYLE 01, SECTION B

Track 1	Phrase: BD1 008
Track 2	Phrase: SD2 066
Track 3	Phrase: SD2 031
Track 4	Phrase: HH4 179

15 Return to the PATTERN Play Display

Press the [PATTERN] button to go to the PATTERN Play display. You can do this either while the pattern is playing or stopped. Note, when you return to the PATTERN Play display, that the tracks which now contain data — i.e. the tracks you assigned phrases to — are indicated by solid blocks above the track numbers. The empty tracks show only dotted outlines.



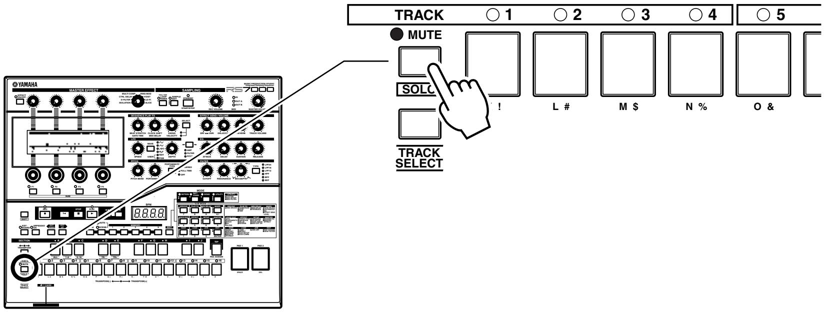


16 Try Out the MUTE and SOLO Functions

While we're at it, let's try out a couple of the RS7000's convenient monitoring features: MUTE and SOLO.

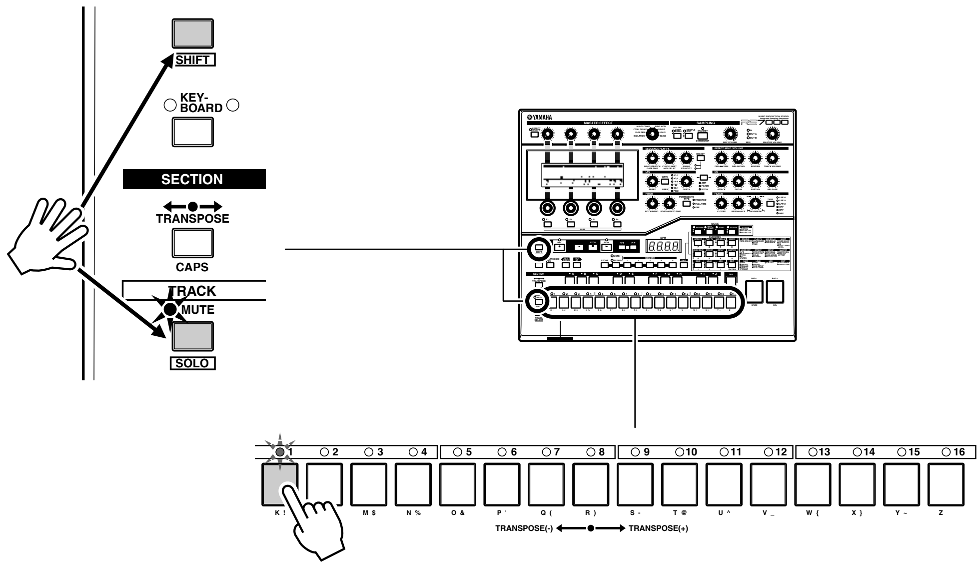
MUTE

Tracks can be individually muted (turned off) for monitoring purposes … or for creative real-time playback control. To mute tracks press the [MUTE] button so that its indicator lights, then the lower (white and gray) keys on the keyboard will alternately mute and un-mute the corresponding tracks. When a tracks is muted "[M]" appears on the display in place of the track number.



SOLO

SOLO is sort of like mute in reverse: when a track is “soloed” only that track will sound while all others are muted. Press the [MUTE] button (note that the button also has a “SOLO” label) while holding the [SHIFT] button to solo the currently selected track (i.e. the track with the highlighted track number). Press the [MUTE] button to disengage the SOLO function. Only one track can be soloed at a time, but you can switch soloed tracks rapidly simply by pressing the corresponding white or gray key on the keyboard while the SOLO function is engaged. When a track is soloed “[S]” appears in place of the track number.



17 Play the Pattern & Switch Sections in Real Time

With the pattern playing in the PATTERN Play mode and the [KEYBOARD] button indicator OFF (if it is on, press the [KEYBOARD] button to turn it off), you can use the black keys on the RS7000 keyboard to directly switch between sections “A” through “J”. Since we’ve created a section “A” and a section “B” so far, try using the keyboard to switch back and forth between these two sections.

18 Save the Pattern

Since the RS7000 saves all pattern (and other) data in volatile RAM memory, the data will be lost as soon as the power is turned off. In order to keep patterns, phrases, songs, or samples you’ve created, you’ll need to save them to either a memory card or external SCSI disk before turning the power off. Memory cards are the obvious choice for maximum convenience, ease-of-use and portability, while SCSI disks offer greater storage capacity.

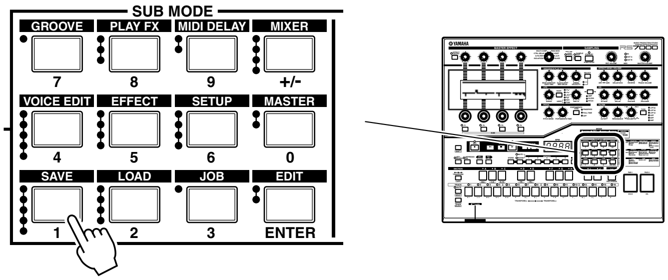
Complete information about memory cards, SCSI disks, and save-related procedures is available in the “Saving To Memory Card or Disk” section on page 114 of chapter 2. Here’s a brief outline to save you the trip.

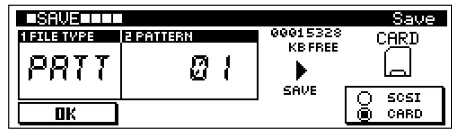
⚠ CAUTION

The supplied memory card contains style data when initially shipped. Use a separate memory card or save the style data to an external SCSI disk if you want to keep this style data.

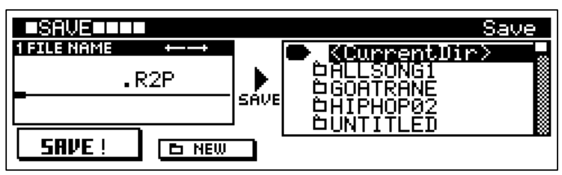
The Save Procedure

1. While pattern playback is stopped, press the [SAVE] button from the PATTERN Play or Patch wode to go to the Save page.





2. Use [Knob 1] (FILE TYPE) to select “PATT” if it isn’t already selected.
3. Use [Knob 2] (PATTERN) to select the style to be saved — “01” should already be selected.
4. Press [F4] (CARD/SCSI) to specify whether you want to save to a memory card or disk. [F4] alternately selects “CARD” and “SCSI”.
5. Press [F1] (OK) to go to the save execution page.



6. Use [Knob 1] (FILE NAME) and the keyboard to enter a file name: [Knob 1] moves the file name cursor right or left to the desired character location, and the keyboard enters the corresponding character at the cursor location. The characters entered by the black keys are listed above the keys, and those entered by the white/gray keys are listed below the keys. The second white/gray-key characters are entered by pressing the key while holding the [SHIFT] button. Numbers can be entered via the SUB MODE buttons.
7. Use [Knob 3] to select “CurrentDir” at the top of the list to save to the currently open folder. If the selected memory card or disk contains multiple folders, use [Knob 3] to select the folder to which the file is to be saved. As necessary use [F3](↑) [F4](OPEN) to move between folders, or [F2](NEW) to create a new folder.
8. Press [F1](SAVE) to execute the save operation.
   If a file with the same file name already exists on the card or disk, the “Overwrite? NO[F2]/YES[F3]” confirmation message will appear.
   Press [F3] if it is OK to overwrite the existing file and replace it with the new file. Press [F2] to cancel the save operation and return to the status prior to pressing the [F1] button (step 5, above).
9. Press [EXIT] twice to return to the PATTERN Play or Patch display.

3. Real-time Sound Control

Our pattern isn't finished yet — we still need to record an original phrase and add some sampled material — but now would be a good time to take a little detour and investigate some of the real-time control provided by the RS7000's panel knobs. Although the RS7000 is geared towards "production" rather than live sound (but that doesn't mean it isn't a killer live-mix tool, too), the ability to creatively control the sound in real time is an essential part of modern production technique. Real-time control brings "spontaneity" to high-tech music production.

Procedure

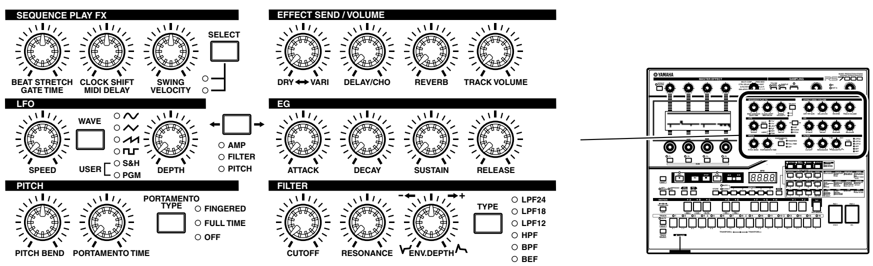
With the pattern playing in the PATTERN Play mode, try the following:

1 Adjust the BPM

Rotate [Knob 4] to change the tempo (BPM) of the pattern in real time.

2 Select a Track & Try the Following Controls

The panel knobs we will explore below affect the currently selected track. So select the track you want to control, then try out the controls listed below.



FILTER

Experiment with the [CUTOFF], [RESONANCE], and ENV. DEPTH knobs to hear how they affect the selected track. Note that these controls are fairly interactive, so you may have to play around a bit to find the sound you want. You might also try using the [TYPE] button to change the filter type.

EG

These "grab-and-twist" envelope knobs can affect the sound in a big way. The [AMP/FILTER/PITCH] button determines whether the EG knobs affect the amplitude, filter, or pitch envelope generator. Select "FILTER" and try them on the bass-drum track (track 1) to hear how the ATTACK knob, for example, can add a dynamic filter affect to the sound.

EFFECT SEND/VOLUME

These knobs are directly linked to the corresponding controls for the selected track in the RS7000's mixer (we'll look at the mixer in section 6 of the tutorial). Simply, the first three knobs — [DRY ↔ VARI.], [DELAY/CHO] and [REVERB] — control the effect send levels to the corresponding RS7000 effect stages. The [TRACK VOLUME] knob does just what it says — controls the volume of the selected track in relation to the others.

PITCH

The [PITCH BEND] knob directly changes the pitch of the selected track (the center click-stop position is normal pitch). When the selected track contains a melodic line, the [PORTAMENTO TIME] knob controls the length of the pitch slide between subsequent notes when either the FINGERED or FULL TIME PORTAMENTO TYPE is selected. See page 100 of the reference section for more details about portamento and portamento types.

LFO

Much like the LFO on an analog synthesizer, these knobs apply LFO (Low-Frequency Oscillator) modulation to the selected track. Use the [WAVE] button to select an LFO waveform, then use the [SPEED] and [DEPTH] knobs to adjust the LFO effect as required.

SEQUENCE PLAY FX

These knobs directly control a number of the RS7000's PLAY FX parameters. "Play Effects" function at the sequencing stage to provide harmonization as well as note and timing variations without permanently affecting the sequence data. Six note and timing related Play Effect parameters can be accessed via these three knobs, selectable in groups of three (the upper and lower labels below the knobs) by using the [SELECT] button.

4. Recording Original Phrases

So far we have created a basic 4-track pattern using preset phrases supplied with the RS7000. Now let's try recording an original phrase to add to the existing section-A pattern. Nothing fancy — perhaps a few "hits" using the "HiQ 1" voice.

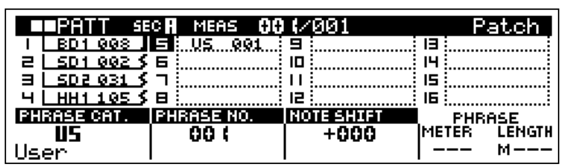
Real-time Recording Procedure

1 Select a New Track

In the PATTERN Patch mode (use the [PATTERN] button to select it if necessary) use [Knob 2] to select section-A, and use the standard track-selection procedure to select a new track for recording. Since we've already used tracks 1 through 4, select track 5.

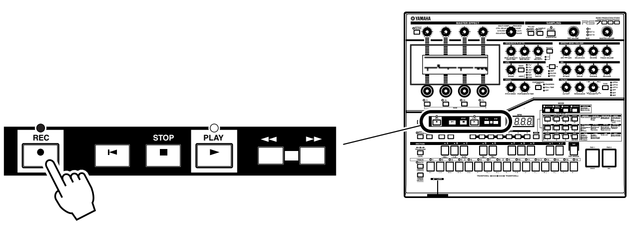
2 Select a User Phrase to Record

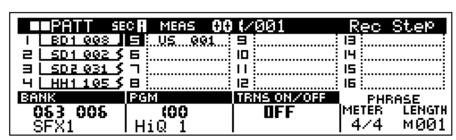
Still in the PATTERN Patch mode, use [Knob 1] to select the "User" phrase category, and [Knob 2] to select the number of the user phrase you want to record. The RS7000 has memory for up to 256 user phrases per style. Select "001" for our example.



3 Engage Record Standby (PATTERN Patch) and Select a Voice

Press the [REC] button to engage the record standby (PATTERN Patch) mode and the display will change to allow you to select a voice for the new user phrase. The red LED above the [REC] button will light.

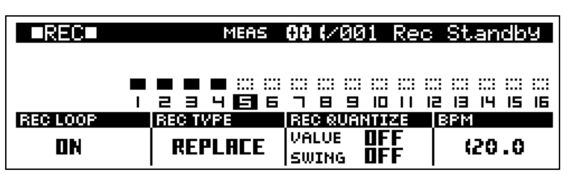




Use [Knob 1] (BANK) to select the "SFX 1" voice bank (063 006), and then [Knob 2] (PGM) to select the "HiQ 1" voice (100).

4 Go to the Rec Standby (PATTERN Play) Display

Press the [PATTERN] button to go to the PATTERN Rec Standby (PATTERN Play) display.



5 Select a Record Mode

Normally, when recording a new track from scratch you'll want to use the REPLACE record mode. Use [Knob 2] to select "REPLACE" (if it isn't already selected).

If you've already recorded some material on a track and want to record additional notes without erasing the existing material, select the OVERDUB record mode instead of the REPLACE mode. There's also a STEP mode that allows notes and events to be entered one at a time so you don't have to play the part in real time (Page 80), and a GRID record mode that allows easy note entry using the white/gray keys on the keyboard as a 16^{th}-note "grid" (Page 83).

6 Select a REC LOOP Mode

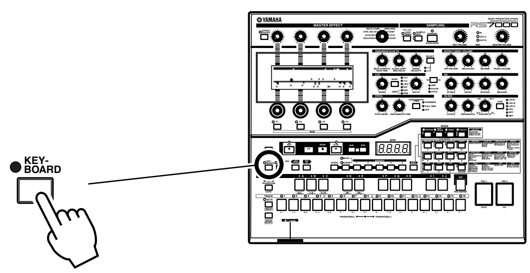
Use [Knob 1] to turn the REC LOOP mode ON or OFF as required. If REC LOOP is ON the pattern will cycle repeatedly allowing you to add new material on each pass — or simply listen to pattern a few times while you get ready to record. If REC LOOP is OFF there will be only one recording pass. Turn REC LOOP ON.

The REC QUANTIZE Function

This handy function allows you to quantize "on-the-fly" as you record in real time. If you record with REC QUANTIZE "OFF", anything you play on the keyboard will be recorded at maximum resolution (480 clocks per quarter note on the RS7000). But if you use [Knob 3] to select a quantize note value (quantize values are displayed both in clocks and graphic note symbols), all notes you play will be quantized to the nearest specified note value as you record. You can even adjust the swing value for each quantize value selection by pressing the [F3] function button so that the SWING parameter is highlighted and then using [Knob 3]. See page 78 in the reference section of this manual for more details on quantization and swing.

7 Record

When you've set up all the parameters as required, press the [PLAY] button to begin recording. The RS7000 will give you a one-measure count-in, then recording will begin. Make sure the [KEYBOARD] button indicator is lit (press the [KEYBOARD] button if it isn't), and play your original part on the RS7000 keyboard.



Changing the Count-in Length

If a one-measure count-in doesn't suit your needs, you can change the number of count-in measures via the UTILITY mode REC COUNT function, described on page 257.

8 Stop Recording

Press the [STOP] button to stop recording.

9 Play and Check the Results

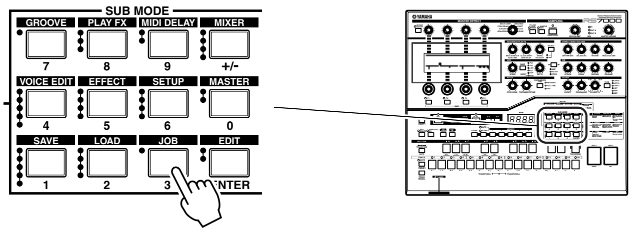
Press the [PLAY] button to play back the pattern and check the results.

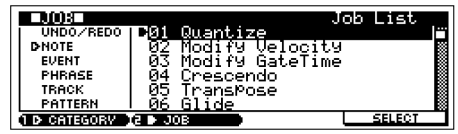
10 Apply Quantization (Optional)

If your timing is perfect or you want to retain a "human" feel in your pattern you might not need to perform this step, but we'll describe it anyway since you'll probably want to make use of the RS7000's many useful "jobs" quite frequently as you create original phrases and sequences. Refer to "Pattern and Phrase Editing — the Pattern Jobs" on page 133 for a complete list of the available jobs and parameters.

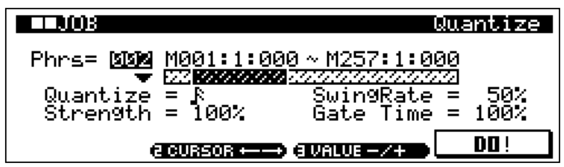
Job Selection (Quantize) and Execution Procedure

1. With the track containing the data to be processed selected (track 5 for our example), press the [JOB] button from the PATTERN Play or Patch mode to go to the job list.

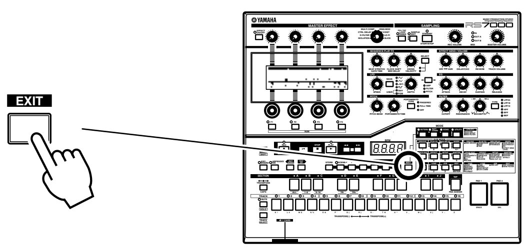




2. Use [Knob 1] (CATEGORY) and [Knob 2] (JOB) to move the cursor to the desired job. In this case you want to select the “01 Quantize” job in the “NOTE” category.
3. Press [F4] (SELECT) to jump to the selected job page.



4. Use [Knob 2] (CURSOR ↔) to move the cursor to the various parameters in the Quantize display page, and [Knob 3] (VALUE -/+) to set the parameter values as required. When you initially go to the Quantize page the parameters are set up for strict 16th-note quantization, which is fine for our purposes here so you can simply go on to the next step. But if you want to learn about the various parameters and make fine adjustments, refer to page 135 of the manual.
5. When the parameters are set press [F4] (DO!) to execute the Quantize job. “Completed” will appear when the job is done.
6. Press [EXIT] twice to go back to the PATTERN Play or Patch mode, then press the [PLAY] button to play back the pattern and check the results.

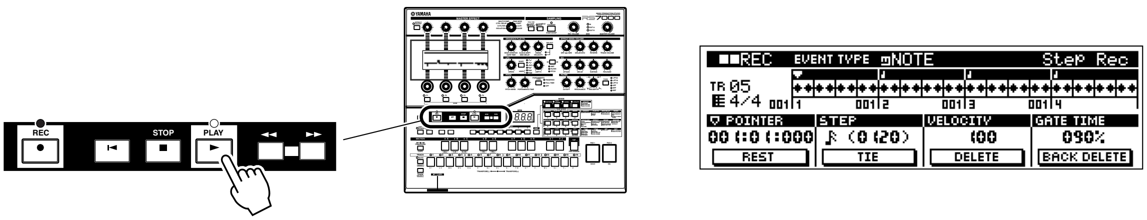


Step Recording

Real-time recording is fine for many recording tasks, but if you want precise control over note placement, or are attempting to record a phrase that would be difficult to play on the keyboard in real time, the Step record mode is ideal.
For full details on step recording see page 80. Here's a quick rundown of the procedure to give an idea of how it works.

Step Record Procedure (Note Data)

1. Start from step 5 of the real-time record procedure described above, but select the "STEP" record mode instead of "REPLACE".
2. Use [Knob3] to select the type of data you want to record: notes, pitch bend, or control change. Since you want to record notes, make sure "NOTE" is selected.
3. Press [PLAY] and the Step Rec display will appear.



4. The Step Rec display shows one measure of 32^{nd} notes. Each diamond-shaped marker corresponds to a 32^{nd} note. The triangular pointer above the 32^{nd} note markers indicates the current note position. Use [Knob 1] to move the pointer to the position at which you want to enter a note, [Knob 2] to set the note length, [Knob 3] to set the note velocity, and [Knob 4] to set the gate time.
5. Enter the note by pressing the appropriate key on the keyboard. In the step record mode notes are actually entered when the keys are released. So when entering chords be sure to press all notes you want to enter before releasing the keys.
   Press [F1] to enter a rest, or [F2] to enter a tie. The [F3] (DELETE) and [F4] (BACK DELETE) buttons can be used to delete entered notes.
   If you press the [PLAY] button the [PLAY] indicator will flash and you will be able to hear how your step-recorded phrase is shaping up. Press [STOP] to stop playback and continue entering notes in the step mode.
6. Stop recording and return to the PATTERN Play (or PATTERN Patch) mode by pressing the [STOP] button.

5. Add Samples

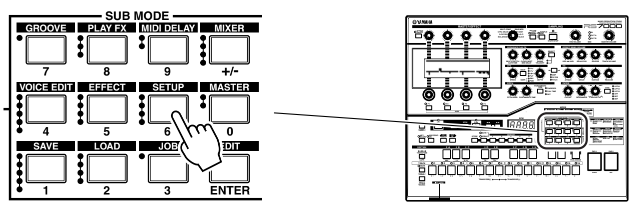
Although it would be easier just to load one of the pre-recorded samples provided on the SmartMedia memory card supplied with the RS7000 and add it to our pattern, we recommend that you take the time to actually try recording your own samples.

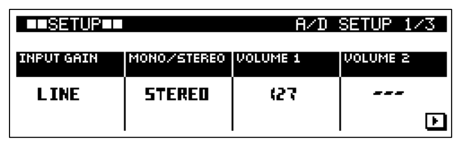
The Source

You will need to provide a source for sampling. This could be a CD player, tape player, or any other source capable of delivering a line-level signal. You could also use a microphone since the RS7000 inputs can easily be set for microphone-level input.

For Line-level Sources

Press the [SETUP] button twice to access the A/D SETUP page and make sure that the INPUT GAIN parameter is set to LINE. Use [Knob 1] to select LINE if necessary.





For Microphones

Press the [SETUP] button twice to access the A/D SETUP page and make sure that the INPUT GAIN parameter is set to MIC. Use [Knob 1] to select MIC if necessary.

Mono Sources

If you have a mono source — such as a single microphone — plug it into the INPUT L jack on the rear panel.

Stereo Sources

Plug the left and right outputs from a stereo source in the INPUT L and R jacks, respectively.

What to Record

Obviously, you can sample any sound or instrument you like for your own music. The RS7000 has a number of features that make creating even complex samples quite easy. The SLICE+SEQ sampling mode, for example, automatically “slices” breakbeats or musical phrases you record into beat-size segments which are then placed in the selected pattern track along with the note data required to play them back as recorded. You can then “remix” the sliced samples to create a range of original variations.

For our tutorial, however, it would be wise to keep things simple. Record a single sound that can be used as a “hit” in our pattern. A convenient way to do this would be to connect a microphone and record a percussive vocal sound: “Hah!”, “Yo!”, “Boo” … whatever works. You might be able to get some neat distorted sounds by cupping the mic right up against your mouth as you record. You can also use the RS7000’s sophisticated effects to process the sound later. Use your imagination.

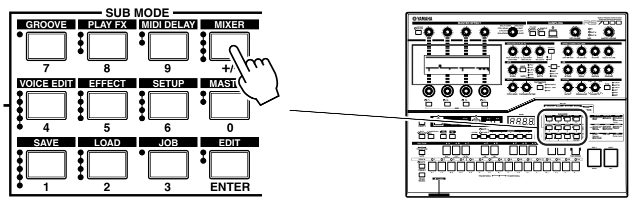
Basic Sampling Procedure

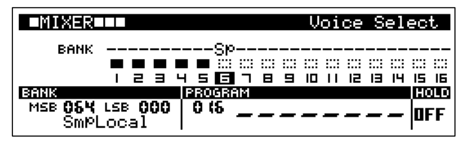
1 Select a Track for the Sample

In the PATTERN mode use [KNOB 2] to select section-A, and select the track to be used for sampling by pressing a white/gray key on the keyboard while holding the [TRACK SELECT] button. For our example select track 6.

2 Select a Sample Voice Number

Press [MIXER] to go to the MIXER page and select the sample voice number to which you want to record the new sample: use [Knob 1] to select either the SmpLocal (Local Sample Voice) or SmpCmn (Common Sample Voice) bank, and [Knob 3] to select a voice number to which your sample will be recorded from 001 through 128. When done press [EXIT] to go back to the PATTERN display.
For more information on Local Sample Voices and Common Sample Voices refer to page 61.



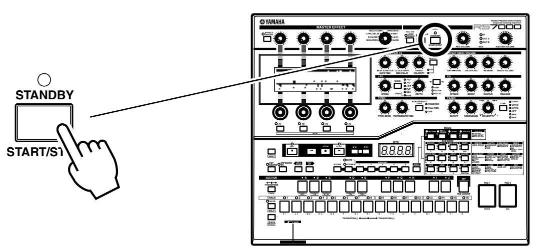


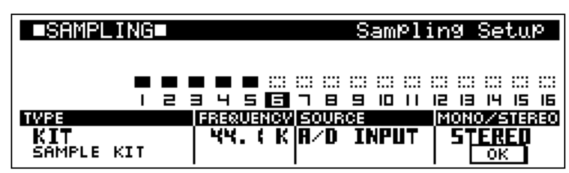
3 Set the INPUT GAIN

If you haven't already done so, press the [SETUP] button twice from the PATTERN mode to go to the A/D Setup page, and use [Knob 1] to set the INPUT GAIN as required. When done press [EXIT] twice to go back to the PATTERN display.
Refer to "The Source" (Page 43) for appropriate settings for various source types.

4 Go to the Sampling Setup Page

From the PATTERN mode press the [STANDBY/START/STOP] button to go to the Sampling Setup page45.





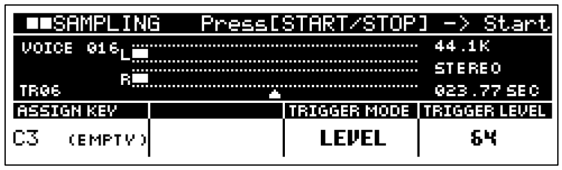
5 Set the Sampling Setup Parameters

Use [Knob 1] ~ [Knob 4] to set the sampling TYPE, FREQUENCY, SOURCE, and MONO/STEREO, as follows:

TYPE	Select "KIT+NOTE", since we want to record a simple, one-shot sample synchronized with sequencer playback.
FREQUENCY	You can choose any sampling frequency you like, but if you don't have any immediate preference the "44.1 K" setting will give you the best sound quality.
SOURCE	Select "A/D INPUT" if you're recording via the RS7000's built-in analog inputs. If you have the AIEB2 I/O Expansion Board installed then you might want to select "DIGITAL" or "OPTICAL", as required.
MONO/STEREO	This will depend on the source you are recording. If you have a mono microphone plugged into the INPUT L jack, select "MONO L". If your microphone is plugged into the INPUT R jack select "MONO R". Select "STEREO" if you want to create a stereo sample from a stereo source connected to the L and R inputs, or "MONO L+R" to create a mono sample from a stereo source connected to the L and R inputs.

6 Go to the Sampling Standby Page

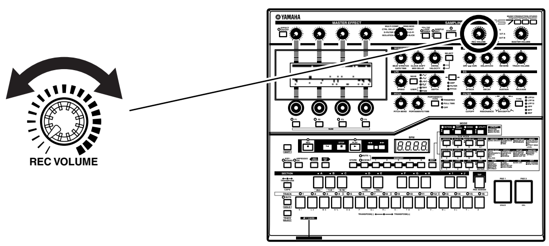
Press [F4] (OK) to go to the sampling standby page.



7 Set the Trigger Mode/Level

Use [Knob 3] (TRIGGER MODE) to set the trigger mode to “LEVEL”, and [Knob 4] (TRIGGER LEVEL) to set the trigger level to “64”. Play your source or speak into the microphone at this point to make sure that the level bar graph extends past the triangular trigger level marker below the level meter, but doesn't “peak out” due to excessively high input levels (you’re not actually sampling yet). If the level is too low or high, use the REC VOLUME control to adjust as necessary. If the REC VOLUME control doesn’t allow sufficient adjustment, recheck your INPUT GAIN setting (step 3, above) or change the Trigger Level setting as required.

Refer to page 232 for information on the other available trigger modes.



8 Press [STANDBY/START/STOP] to begin sampling

Pressing [STANDBY/START/STOP] engages the trigger wait mode, and sampling will begin automatically as soon as the input signal exceeds the specified trigger level. Since the KIT+NOTE sampling type is selected sequence playback will begin automatically when the [STANDBY/START/STOP] button is pressed. Sampling will always be synchronized with sequencer playback — in other words, your sample will be placed in the pattern at exactly the point you begin recording.

9 Stop Sampling

Press the [STANDBY/START/STOP] button to stop sampling when your sample is recorded. Sampling will also stop automatically when the end of the pattern is reached. The sampling mode will be exited when sampling ends.

10 Play and Check the Results

Press [PATTERN] to select the PATTERN Play or PATTERN Patch page, then press the [PLAY] button to play back the pattern and check the results.

Editing Your Sample

If all went well your vocal hit will play back with the pattern in precisely the location it was recorded (this is because the KIT+NOTE sample type was selected. You might also want to loop, slice, or modify the way your sample plays back in other ways. Refer to “Chapter 5: The Sampling Mode” beginning on page 227 for complete information on all of the sample editing functions provided by the RS7000.

6. Finalizing Your Sound

In this section we'll take a look at some of the important RS7000 features you can use to refine and finalize your sound.

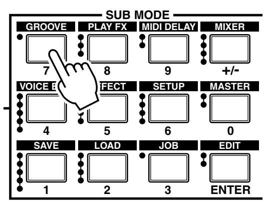
Grid Groove

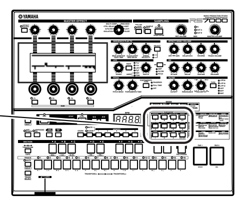
With the RS7000 there are a surprising number of ways to modify your sound even after the tracks are recorded. The Grid Groove function is one of these. Grid Groove lets you change the notes, timing, length, and velocity of individual beats in your pattern or song to fine-tune the "groove". The Grid Groove function can be very effective when used with sliced break-beat samples. Here's how it works:

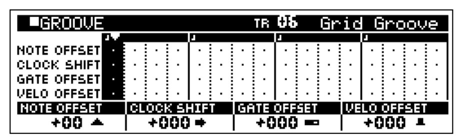
Procedure

1 Select the Grid Groove Mode

Press the SUB MODE [GROOVE] button to engage the Grid Groove function.







2 Select a Track

Use the standard track-selection procedure to select the track you want to work on (press a gray or white key on the keyboard while holding the [TRACK SELECT] button). The number of the selected track appears in the title bar at the top of the display.

3 Select One or More Beats

The entire Grid Groove display corresponds to one 4/4 measure, and the vertical divisions are 16^{th} beats. The 16 gray or white keys on the keyboard correspond to each of these 16^{th} beats. Press the keys on the keyboard corresponding to the beat(s) you want to affect with the groove controls. The selected segments in the Grid Groove display will be highlighted.

4 Play the Pattern & Adjust the Groove Parameters as Required

Press the [PLAY] button to begin playback, then use [Knob 1] ~ [Knob 4] to adjust the corresponding groove parameters for the selected beats. The little icons that appear on the grid tell you when any parameter has been shifted from its "0" setting.

NOTE OFFSET

Shifts the selected note(s) up or down in semitone increments. With pitched voices this will obvisously change the pitch, but with-drum kit voices or sliced break-beats this will change the instrument played on the specified beat(s).

CLOCK SHIFT

Shifts the timing of the specified beat(s) forward or backward in clock increments (there are 480 clocks per quarter note) up to a maximum of plus or minus 120 clocks (i.e. a 16^{th} note).

GATE OFFSET

Adjusts the gate time (length) of the selected beat(s). Positive settings make the note(s) longer and negative settings make them shorter.

VELO OFFSET

Increases or decreases the velocity of the selected beat(s). Positive settings for higher velocity and minus settings for lower. By playing with the velocity settings you can dramatically change the rhythmic feel of a pattern.

Grid Groove Changes Can Be Recorded

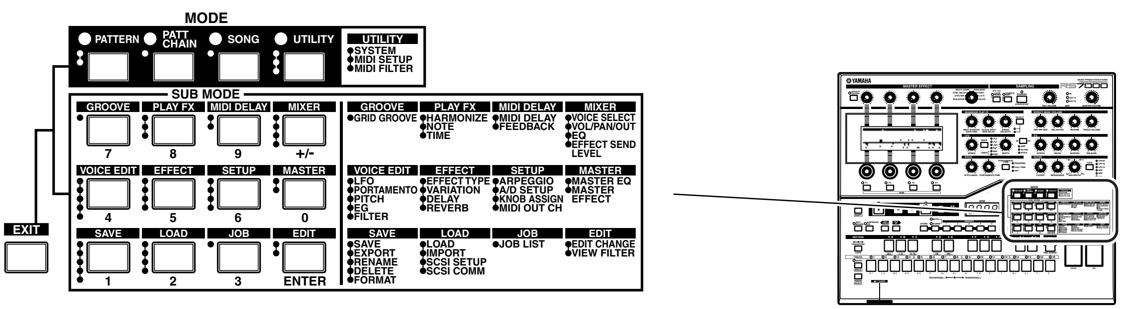
Even if you're working on a preset phrase, the results of your Grid Groove tweaking can be recorded for posterity. For this and details on other Grid Groove features, see page 85 of the reference section.

The Mixer

As the name implies, the RS7000 mixer is much like a mixer you'd use for mixing regular sources. You'll use it to select voices for individual tracks, adjust levels and pan, adjust equalization, and adjust effect send levels.

Selecting SUB MODE Pages

The various display pages corresponding to these mixer functions are accessed by pressing the SUB MODE [MIXER] button. The four little "bullets" next to the button indicate that it accesses four pages, and the actual names of the pages accessed are listed under "MIXER" on the panel to the right of the SUB MODE buttons. You move one page down the list each time you press the [MIXER] button until you reach the last page. You can then move up through the list by using the [EXIT] button. The same principle applies to all the SUB MODE functions.

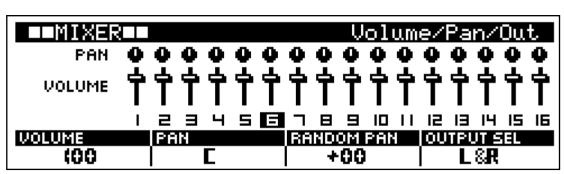


Procedure

*** Levels & Pan**

1 Select the MIXER Volume/Pan/Out Page

Use the [MIXER] button (or the [EXIT] button if you're at a lower mixer page) to select the MIXER Volume/Pan/Out page.



2 Select a Track

Use the standard track-selection procedure to select the track you want to work on (press a gray or white key on the keyboard while holding the [TRACK SELECT] button). The number of the selected track will be highlighted on the display.

3 Adjust the Parameters as Required

Use the function knobs to adjust the required parameter(s). Use [Knob 1] to adjust the volume of the selected track. The graphic “fader” will move accordingly. [Knob 2] adjusts the stereo pan position. [Knob 3] controls random pan depth, and [Knob 4] selects the output to which the selected track will be sent — see page 94 of the reference section for details.

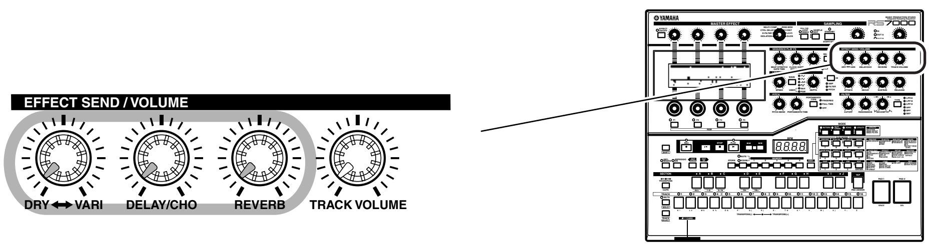
While you’re here, use the volume and pan parameters to set up a mix for our pattern that sounds good to your ears.

*** EQ and Effects**

Now that you know the basic procedure (select mixer page → select track → make adjustments) you should have no trouble in accessing and adjusting the mixer’s EQ and Effect Send parameters.

The EQ parameters are fairly self-explanatory, but there are quite a few EQ types you can select for each track. Anytime you need details, simply refer to the appropriate chapter in the reference section of the manual: page 94 for EQ, and page 96 for Effect Send.

The Effect Send mixer page provides effect send level controls for the RS7000’s three effect stages: VARIATION, DELAY/CHORUS, and REVERB. The panel [DRY ↔ VARI.], [DELAY/CHO] and REVERB knobs are directly linked to the mixer Effect Send controls for the selected track, so you can use them instead of the function knobs to make adjustments. The RS7000 offers an impressive range of high-quality effects in each effect stage, each with a comprehensive selection of editable parameters.



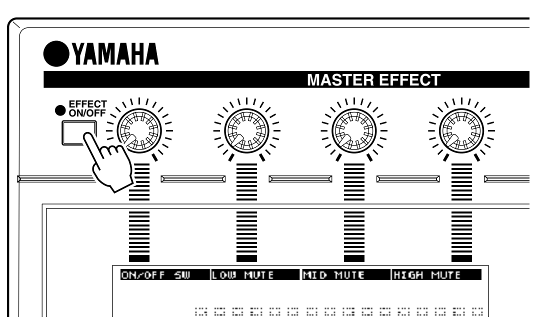
Master Effects

As if the effects accessed via the mixer weren’t enough, Yamaha has added a versatile Master Effect stage which allows even further processing of the overall sound. Spend some time playing with the various effects provided to hear how they affect the pattern we’ve created.

Procedure

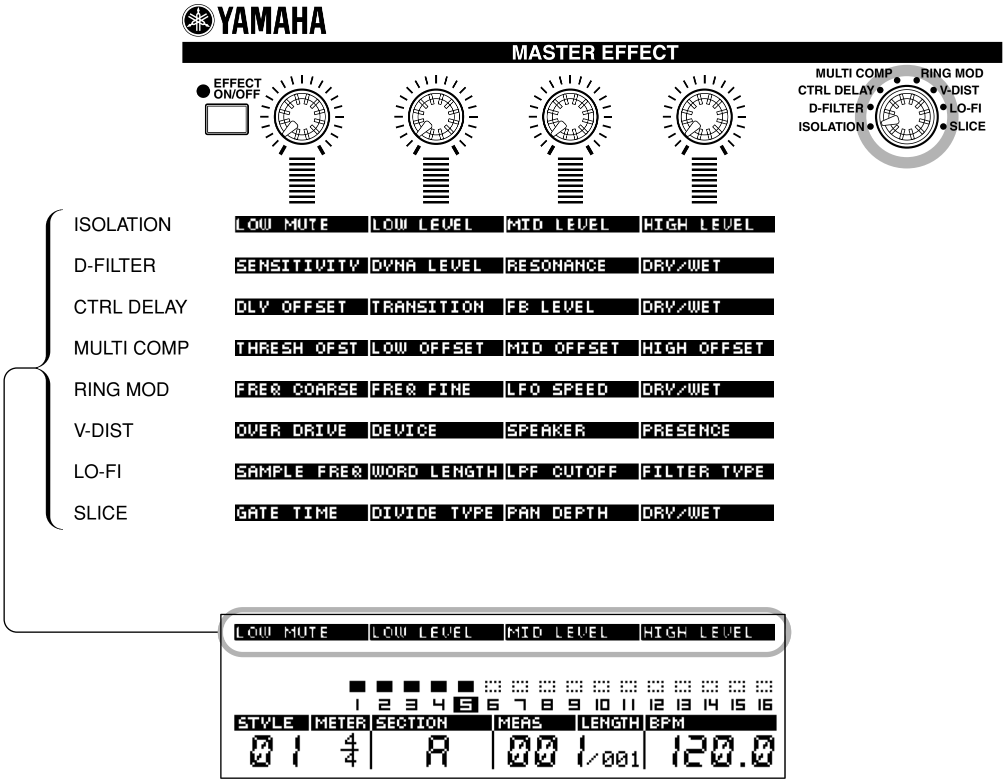
1 Turn the MASTER EFFECT Stage ON

Press [PATTERN] to select the PATTERN Play page, then press the [EFFECT ON/OFF] button so that its indicator lights to turn the MASTER EFFECT stage ON.



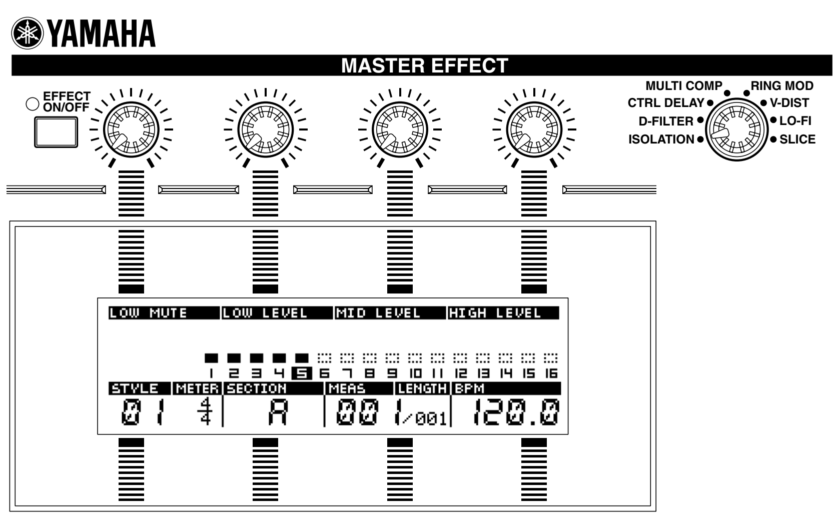
2 Select an Effect

Use the MASTER EFFECT selector dial to select an effect — ISOLATION, D-FILTER, CTRL DELAY, MULTI COMP, RING MOD, V-DIST, LO-FI, or SLICE. Note that when you select an effect the names of parameters pertaining to that effect appear in the top bar of the display.



3 Adjust the Effect Parameters

The four knobs above the display adjust the parameters listed directly below them. Other parameters are available in the MASTER sub mode (Page 111). Experiment with the various effects and their parameters while playing back the pattern to get a feel for what the RS7000 master effects can do for your sound.



Chapter 1. Basic

1. RS7000 System Overview 52
2. RS7000 Internal Structure 58
3. Basic Operation... 64

1. RS7000 System Overview

Mode Structure

In order to make operation of the RS7000 as comprehensive and as smooth as possible, all functions and operations have been grouped in “modes”, many of which also have a number of “sub modes”.

Recording, playback, editing, and other displays are grouped into the following 5 modes.

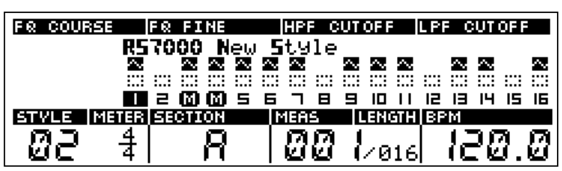
PATTERN mode	Creation and playback of phrases and patterns.
PATTERN CHAIN mode	Sequential playback of patterns.
SONG mode	Creation and playback of songs.
UTILITY mode	Basic RS7000 settings.
SAMPLING mode	Recording and editing of samples.

These modes are further divided into several sub modes.
Mode and sub mode selection is accomplished by using the corresponding mode buttons. It might be a good idea to actually switch through the modes as they are described, below, to get a feel for the overall structure of the RS7000 system.

PATTERN mode [PATTERN] ...(Page 70)

This mode is used to play and create patterns. Patterns can be created using up to 16 tracks. Phrases, which make up the patterns, can also be recorded and edited in this mode.
Press the [PATTERN] button to enter the PATTERN mode. The PATTERN mode includes the following 15 sub modes.

- **PATTERN Play [PATTERN]...(Page 72)**
  Patterns can be selected and played. This display page always appears first when the PATTERN mode is engaged.

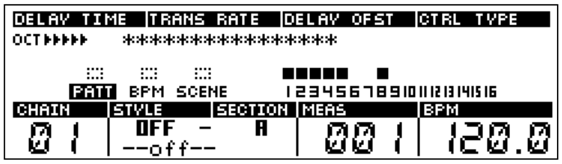


- **PATTERN Patch [PATTERN]...(Page 75)**
  Phrases are combined to create patterns.
- **Phrase Recording [REC]...(Page 77)**
  Original phrases can be created by recording to “user” phrases.
- **Groove [GROOVE]...(Page 85)**
  Allows groove and feel variations to be applied to individual tracks.
- **Play Effects [PLAY FX]...(Page 87)**
  Add depth and harmony to individual tracks.
- **MIDI Delay [MIDI DELAY] ...(Page 90)**
  Adds a special MIDI-based delay effect to individual tracks.
- **Mixer [MIXER]...(Page 93)**
  Individually adjusts the volume, effect level and other parameters for each track.
- **Voice Edit [VOICE EDIT] ...(Page 97)**
  Edits the voices assigned to each track.
- **Effect [EFFECT]...(Page 104)**
  Sets the effects for the REVERB, DELAY/CHORUS, and VARIATION effect stages.
- **Setup [SETUP]...(Page 107)**
  Provides access to the arpeggiator, knob assignment, and channel settings.
- **Master [MASTER]...(Page 111)**
  Provides access to the master EQ and master effect settings.
- **Save [SAVE]...(Page 114)**
  Saves data to memory card or disk.
- **Load [LOAD]...(Page 126)**
  Loads data from memory card or disk.
- **Job [JOB] ...(Page 133)**
  Accesses the pattern and phrase editing jobs.
- **Phrase Edit [EDIT]...(Page 154)**
  Allows editing or insertion of new data in recorded phrases.

PATTERN CHAIN mode [PATT CHAIN]...(Page 158)

Allows sequential playback of patterns. Patterns can be “chained” to create songs, and the results can be converted to actual RS7000 songs.
Press the [PATT CHAIN] button to enter the PATTERN CHAIN mode. The PATTERN mode includes the following 6 sub modes.

- **PATTERN CHAIN [PATT CHAIN]...(Page 159)**
  This mode is used to set up a sequence of patterns for playback, and play the resulting chain. The following display will always appear when the PATTERN CHAIN mode is first selected.

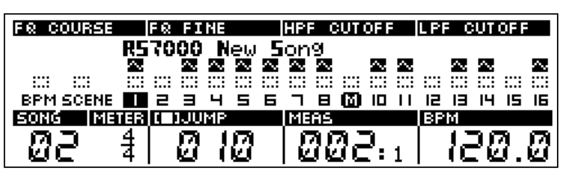


- **Master [MASTER]...(Page 164)**
  Provides access to the master EQ and master effect settings.
- **Save [SAVE] ...(Page 166)**
  Saves data to memory card or disk.
- **Load [LOAD]...(Page 169)**
  Loads data from memory card or disk.
- **Job [JOB]...(Page 171)**
  Accesses the pattern chain editing jobs.
- **Phrase Edit [EDIT]...(Page 175)**
  Allows editing or insertion of new data in pattern chains.

SONG mode [SONG]...(Page 180)

This mode is used to play and create songs using up to 16 sequencer tracks.
Press the [SONG] button to enter the SONG Play mode.
The SONG mode is made up of the following 14 sub modes.

- **Song Play [SONG]...(Page 182)**
  Songs can be selected and played. This display page always appears first when the SONG mode is engaged.



- **Song Recording [REC]...(Page 184)**
  Original songs are recorded in this mode.
- **Groove [GROOVE]...(Page 191)**
  Allows groove and feel variations to be applied to individual tracks.
- **Play Effects [PLAY FX]...(Page 192)**
  Add depth and harmony to individual tracks.
- **MIDI Delay [MIDI DELAY]...(Page 193)**
  Adds a special MIDI-based delay effect to individual tracks.
- **Mixer [MIXER]...(Page 194)**
  Individually adjusts the volume, effect level and other parameters for each track.
- **Voice Edit [VOICE EDIT]...(Page 196)**
  Edits the voices assigned to each track.
- **Effect [EFFECT]...(Page 198)**
  Sets the effects for the REVERB, DELAY/CHORUS, and VARIATION effect stages.
- **Setup [SETUP] ...(Page 200)**
  Provides access to the arpeggiator, knob assignment, and channel settings.
- **Master [MASTER]...(Page 202)**
  Provides access to the master EQ and master effect settings.
- **Save [SAVE]...(Page 204)**
  Saves data to memory card or disk.
- **Load [LOAD]...(Page 208)**
  Loads data from memory card or disk.
- **Job [JOB]...(Page 212)**
  Accesses the song editing jobs.
- **Song Edit [EDIT]...(Page 225)**
  Allows editing or insertion of new data in recorded songs.

UTILITY mode [UTILITY]...(Page 256)

Accesses the basic RS7000 settings and MIDI settings.
Press [UTILITY] to go to the UTILITY mode.
The UTILITY mode is made up of the following 3 sub modes.

- **System Setup [UTILITY]...(Page 257)**
  Master tuning, controller settings, and other overall system parameters.
- **MIDI Setup [UTILITY]...(Page 260)**
  MIDI synchronization, echo back, and other MIDI-related setup parameters.
- **MIDI Filter [UTILITY]...(Page 262)**
  Specifies which MIDI events will be received or transmitted via the MIDI IN/OUT connector.

SAMPLING mode ...(Page 228)

This mode is used to record and edit samples.
The SAMPLING mode is made up of the following 3 sub modes.

- **Sampling [STANDBY/START/STOP]...(Page 229)**

  Records samples.

> **NOTE**
> A "sample" is digitally recorded wave data that includes sample parameter data which defines the way it is to be triggered and played back.

- **Real-time Loop Remix [REAL TIME LOOP REMIX]...(Page 239)**

  Allows recorded sample phrases to be remixed in real time.

> **NOTE**
> The REAL TIME LOOP REMIX function divides up the performance data in the selected track and randomly rearranges part of it to create a range of variations. Since this function works with MIDI data, it can also be applied to tracks that don't use samples.

- **Sample Edit [SAMPLE EDIT]...(Page 241)**

  Allows samples to be edited. The sample jobs are also included in this sub mode.

Function Tree

● PATTERN MODE

Pattern Play [PATTERN] P.72
Patch [PATTERN] P.75

Phrase Recording [REC]
- Recording Standby P.78
- Real Time Recording P.80
- Step Recording P.80
- Grid Step Recording P.83

Groove [GROOVE]
- Grid Groove P.85

Play Effects [PLAY FX]
- Harmonize P.88
- Note P.88
- Time P.89

MIDI Delay [MIDI DELAY]
- MIDI Delay Edit P.91
- Feedback Edit P.91

Mixer [MIXER]
- Voice Select P.93
- Volume/Pan/Out. P.94
- EQ P.94
- Effect Send Level P.96

Voice Edit [VOICE EDIT]
- LFO P.97
- Portamento P.100
- Pitch P.100
- EG P.101
- Filter P.102

Effect [EFFECT]
- Effect Type P.104
- Variation Parameters P.105
- Delay/Chorus Parameters P.105
- Reverb Parameters P.106

Setup [SETUP]
- Arpeggio Setting P.108
- A/D Setup P.108
- Knob Assign P.109
- MIDI Out Channel P.110

Master [MASTER]
- Master EQ P.111
- Master Effect P.112

Save [SAVE]
- Save P.118
- Export P.120
- Rename P.122
- Delete P.123
- Format P.124

Load [LOAD]
- Load P.126
- Import P.129
- SCSI Setup P.131
- SCSI Communication P.132

Job [JOB]
- Job List P.133
  - 00 Undo/Redo P.134
  - 01 Quantize P.135
  - 02 Modify Velocity P.136
  - 03 Modify Gate Time P.137
  - 04 Crescendo P.138
  - 05 Transpose P.138
  - 06 Glide P.138
  - 07 Create Roll P.139
  - 08 Chord Sort P.139
  - 09 Chord Separate P.140
  - 10 Shift Clock P.140
  - 11 Copy Event P.141
  - 12 Erase Event P.141
  - 13 Extract Event P.142
  - 14 Create Continuous Data P.142
  - 15 Thin Out P.143
  - 16 Modify Control Data P.143
  - 17 Beat Stretch P.144
  - 18 Copy Phrase P.144
  - 19 Exchange Phrase P.145
  - 20 Mix Phrase P.145
  - 21 Append Phrase P.146
  - 22 Split Phrase P.146
  - 23 Get Phrase P.147
  - 24 Put Phrase P.147
  - 25 Clear Phrase P.148
  - 26 Phrase Name P.148
  - 27 Copy Track P.148
  - 28 Exchange Track P.149
  - 29 Create Track P.150
  - 30 Normalize Play Effects P.150
  - 31 Divide Drum Track P.150
  - 32 Copy Pattern P.151
  - 33 Append Pattern P.151
  - 34 Split Pattern P.152
  - 35 Clear Pattern P.153
  - 36 Style Name P.153

Phrase Edit [EDIT]
- Edit Change P.154
- View Filter P.156

● SONG Mode

Song [SONG] P.182

Song Recording [REC]
- Recording Standby P.184
- Real Time Recording P.186
- Step Recording P.187
- Grid Step Recording P.189

Groove [GROOVE]
- Grid Groove P.191

Play Effects [PLAY FX]
- Harmonize P.192
- Note P.192
- Time P.192

MIDI Delay [MIDI DELAY]
- MIDI Delay Edit P.193
- Feedback Edit P.193

Mixer [MIXER]
- Voice Select P.194
- Volume/Pan/Out P.194
- EQ P.195
- Effect Send Level P.195

Voice Edit [VOICE EDIT]
- LFO P.196
- Portamento P.196
- Pitch P.197
- EG P.197
- Filter P.197

Effect [EFFECT]
- Effect Type P.198
- Variation Parameters P.198
- Delay/Chorus Parameters P.199
- Reverb Parameters P.199

Setup [SETUP]
- Arpeggio Setting P.200
- A/D Setup P.200
- Knob Assign P.201
- MIDI Out Channel P.201

Master [MASTER]
- Master EQ P.202
- Master Effect P.203

Save [SAVE]
- Save P.205
- Export P.206
- Rename P.206
- Delete P.207
- Format P.207

Load [LOAD]
- Load P.208
- Import P.210
- SCSI Setup P.211
- SCSI Communication P.211

Job [JOB]
- Job List P.212
  - 00 Undo/Redo P.213
  - 01 Quantize P.214
  - 02 Modify Velocity P.214
  - 03 Modify Gate Time P.214
  - 04 Crescendo P.215
  - 05 Transpose P.215
  - 06 Glide P.215
  - 07 Create Roll P.216
  - 08 Chord Sort P.216
  - 09 Chord Separate P.216
  - 10 Shift Clock P.216
  - 11 Copy Event P.217
  - 12 Erase Event P.217
  - 13 Extract Event P.218
  - 14 Create Continuous Data P.218
  - 15 Thin Out P.219
  - 16 Modify Control Data P.219
  - 17 Beat Stretch P.220
  - 18 Create Measure P.220
  - 19 Delete Measure P.220
  - 20 Copy Track P.221
  - 21 Exchange Track P.221
  - 22 Mix Track P.222
  - 23 Clear Track P.222
  - 24 Normalize Play Effects P.222
  - 25 Divide Drum Track P.223
  - 26 Copy Song P.223
  - 27 Split Song to Pattern P.223
  - 28 Clear Song P.224
  - 29 Song Name P.224

Song Edit [EDIT]
- Edit Change P.226
- View Filter P.226

● PATTERN CHAIN Mode

PATTERN CHAIN [PATT CHAIN] P.159
- Pattern Chain Recording [REC]
  - Recording Standby P.161
  - Real Time Recording P.162
  - Step Recording P.163
- Master [MASTER]
  - Master EQ P.164
  - Master Effect P.165
- Save [SAVE]
  - Save P.167
  - Export P.167
  - Rename P.167
  - Delete P.168
  - Format P.168
- Load [LOAD]
  - Load P.169
  - SCSI Setup P.170
- Job [JOB]
  - Job List P.171
    - 00 Undo/Redo P.172
    - 01 Copy Event P.172
    - 02 Erase Event P.172
    - 03 Create Measure P.173
    - 04 Delete Measure P.173
    - 05 Convert to Song P.173
    - 06 Copy Chain P.174
    - 07 Clear Chain P.174
    - 08 Chain Name P.174
- Pattern Chain Edit [EDIT]
  - Edit List P.175

● UTILITY Mode

Utility [UTILITY] P.256
  - System P.257
  - MIDI Setup P.260
  - MIDI Filter P.262

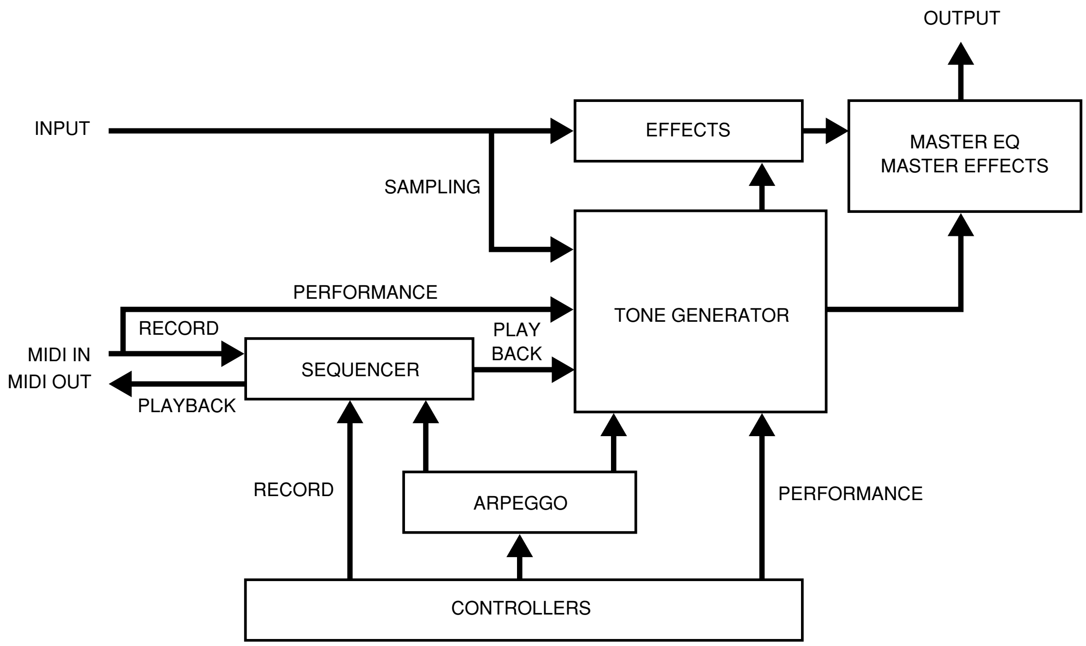
● SAMPLING Mode

SAMPLING P.228
- Sampling [STANDBY/START/STOP]
  - Sampling Setup P.231
  - Sampling Standby P.232
  - Trim P.234
  - Slice P.235
- Real Time Loop Remix [REAL TIME LOOP REMIX]
  - Real Time Loop Remix P.239
- Sample Edit [SAMPLE EDIT]
  - Trim P.241
  - Sample Parameter P.242
  - Sample Job List P.244
    - 01 Copy P.245
    - 02 Delete P.246
    - 03 Extract P.246
    - 04 Move P.246
    - 05 Normalize P.247
    - 06 Time Stretch P.248
    - 07 Pitch Convert P.248
    - 08 Fade In/Out P.249
    - 09 Frequency Convert P.250
    - 10 Stereo To Mono P.251
    - 11 Loop Remix P.251
    - 12 Slice P.252
    - 13 Sample Name P.253

2. RS7000 Internal Structure

The 6 Functional Blocks

The RS7000 system consists of 6 main functional blocks: the sequencer, the tone generator, controllers, the arpeggiator, effects, and master EQ & effects.



● Sequencer...(Page 59)

The sequencer block records performance data from the RS7000's own controllers or external MIDI equipment, and plays back the data using the internal tone generator or external MIDI equipment.

● Tone Generator...(Page 60)

The tone generator block produces voices controlled by the RS7000 sequencer, the controllers, the arpeggiator, or MIDI data received from external MIDI equipment.

● Controllers...(Page 62)

This block includes all controllers which control the sequencer and tone generator blocks: the keyboard, the assignable knobs, sequencer buttons, etc. Performance data played on the keyboard is sent to the sequencer and tone generator in the form of MIDI data, and the sequencer buttons control pattern or song playback.

● Arpeggiator...(Page 63)

This function automatically plays notes and chords played on the keyboard as arpeggios. In addition to driving the tone generator block, arpeggio data can be sent to the sequencer block and recorded as sequence data to a phrase or song, or transmitted to external equipment via the MIDI OUT connectors.

● Effects...(Page 63)

The effect block can be used to apply effect processing to the output of the tone generator block. Three effect stages are provided — reverb, delay/chorus, and variation — and different effects can be applied to each track.

● Master EQ & Effects...(Page 63)

This block applies equalization and effects to the final stereo output signal. This block is ideal for "mastering" the overall RS7000 sound.

Sequencer

The sequencer block records performance data from the RS7000's own controllers or external MIDI equipment, and plays back the data using the internal tone generator or external MIDI equipment.

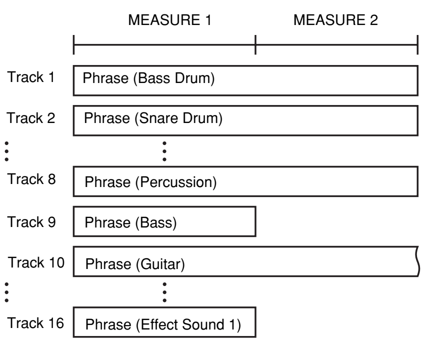
> ⚠ **CAUTION**
>
> All data in the internal sequencer memory will be lost when the power is turned off. Be sure to save important data to a memory card or SCSI disk before turning the power off.

● Patterns & Phrases

"Patterns" are any type musical pattern which can be played, repeated or switched in the PATTERN mode. Patterns consist of from 1 to 16 "phrases" assigned to the 16 pattern tracks.

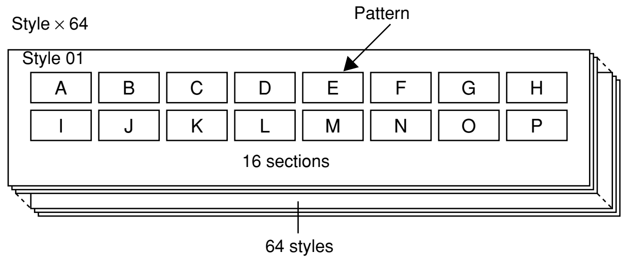
Each phrase can be thought of as a "part" of the patter: a drum part, a bass part, guitar or piano chord backing, a brass line, or any other musical part. In addition to the many preset phrases provided with the RS7000, original phrases can be recorded to create totally original patterns.

Internal Pattern Structure



● Pattern Organization (Styles & Sections)

Patterns are grouped into "styles". Each style can include as many as 16 patterns, each of which is known as a "section". You can switch directly between any of the sections included in a style using the RS7000 keyboard. The internal RS7000 memory holds up to 64 styles (01 ~ 64), each with 16 sections (sections A ~ P), for a total of 1024 patterns (64 × 16 = 1024).



● Pattern Chains

A "pattern chain" is basically a number of patterns played sequentially to produce a complete song. Pattern chains can be created to automatically switch styles and sections. In addition to a pattern track which contains the data for pattern switching, there is a scene/mute which allows scene and mute memories to be recalled as well as specific track mute operations, and a tempo track that allows tempo variations. Pattern chains can be converted to songs, so creating a pattern chain is a convenient way to begin producing a song. The RS7000 has memory for 20 pattern chains (01 ~ 20).

Pattern Chain Track Structure

Track	Data Type	1	2	3	4	5	••• Measures
Pattern Track	Style	01		Repeat		Repeat	•••
	Section	A	B		C		
Scene/Mute Track	Scene Memory Number		3		4	2	•••
	Mute Memory Number	1		2	5		•••
BPM Track	Tempo Change		120	158		72	•••

1 Basic

● Songs

Songs on the RS7000 are much like the songs you would create with a conventional sequencer. Songs are different from patterns in the following ways:

- Performance data can be directly recorded to the tracks.
- Long songs with up to 999 measures can be created.
- Scene/mute changes and tempo changes can be recorded to the scene/mute and BPM tracks, respectively.
- The meter (time signature) can be changed for each measure.
- Punch-in recording is available.
- Multi-record mode simultaneously records all 16 tracks.

The RS7000 has memory for 20 songs (01 ~ 20).

Song Track Structure

Track		1	2	3	4	5	••• Measures
Sequencer Track	Track1	♪♪♪ ♪♪ ♪ ♪♪ ♪♪♪ ♪♪					
	Track2	♪♪♪ ♪♪ ♪ ♪♪ ♪♪♪ ♪♪					
	Track3		♪♪♪ ♪♪ ♪ ♪♪ ♪♪♪ ♪♪				
	Track4			♪♪♪ ♪♪♪ ♪♪ ♪♪♪ ♪♪			
	:						
	Track16	♪♪♪ ♪♪ ♪ ♪♪ ♪♪♪ ♪♪					
Scene/Mute Track	Scene Memory Number		3		4	2	•••
	Mute Memory Number	1		2	5		•••
BPM Track	Tempo Change		120	158		72	•••

● Data Recorded with Styles and Songs

The following types of data are recorded with each style and song.

- BPM (Tempo)
- Scene/Mute Memory
- Transpose (songs only)
- Phrases (styles only)
- Note Shift (styles only)
- Groove
- Play Effects
- MIDI Delay
- Mixer
- Voice Effect
- Effect
- Setup
- Local Sample Voice

Tone Generator

The tone generator block produces voices controlled by the RS7000 sequencer, the controllers, the arpeggiator, or MIDI data received from external MIDI equipment.

> **⚠ CAUTION**
>
> All voice data you created will be lost when the power is turned off. Be sure to save important data to a memory card or SCSI disk before turning the power off.

● Voices & Sample Voices

The RS7000 uses two types of voices: “voices” and “sample voices”.

“Voices” are the internal voices produced by the RS7000’s AWM2 tone generator. Since the voices are preset, they are ready for use as soon as the power is turned on.

“Sample voices” are samples recorded using the RS7000 sampling function or imported from other sources. The sample voice memory is always empty when the power is first turned on.

● Normal Voices & Drum Voices

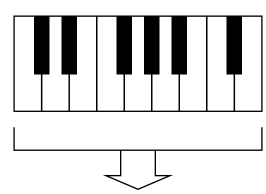
Voices are further divided into two types: “normal voices” and “drum voices”.

“Normal voices” are played normally via the keyboard or a MIDI controller, with each note playing at the corresponding pitch. These types of voices are usually used like individual musical instruments. In the RS7000 Bank Select MSB = 0, 63 selects the normal voices.

“Drum voices” are especially for drums and percussion instruments, with each note producing the sound of a different instrument. In the RS7000 Bank Select MSB = 126, 127 selects the drum voices.

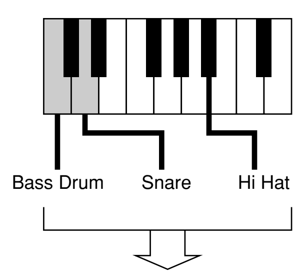
Refer to page 295 in the “Appendix” for complete lists of the instrument-to-key assignments for the drum voices.

Normal Voice



Each key plays the selected voice at the corresponding pitch.

Drum Voice



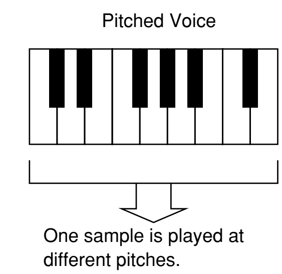
Each key plays a different instrument.

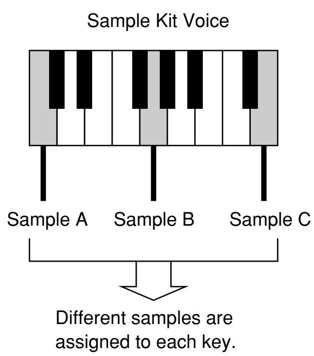
● Sample Kit Voices & Pitched Voices

Sample voices are further divided into two types: “sample kit voices” and “pitched voices”.

“Sample kit voices” allow up to 128 different samples to be assigned to different notes from C-2 to G8. Different samples can thus be played individually or simultaneously as required. Stereo samples use up two of the available assignments, so up to 64 stereo samples can be assigned to one sample kit voice.

Pitched voices play one sample at appropriate pitches across the range of the keyboard.





● Local Sample Voices & Common Sample Voices

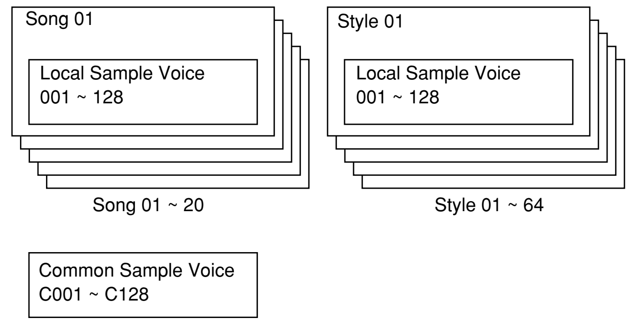
Sample voices can be either “local” or “common”.

Local sample voices are used by a specific song or style. Up to 128 local sample voices can be saved with each song or style. If you have samples you want to use in a number of styles or songs, they should be used as “common sample voices” (below).

Common sample voices are available for use by all songs and styles.

Up to 128 common sample voices can be stored in the RS7000 memory at a time. The sample contents and program number/voice relationship remains the same even when songs or styles are switched.

The maximum total number of sample voices — local for all songs/styles as well as common — that can be stored in the RS7000 memory at any one time is 256.



● Voice Banks

Voice banks organize the RS7000 voices into related categories, and are selected by MIDI Bank Select MSB and LSB data. The RS7000 has 5 main voice categories, further divided into 15 voice banks. A maximum of 128 voices can be stored in each bank.

- (MSB LSB) = (000 000) is the GM* voice bank. This bank contains 128 normal voices conforming to the GM standard.
- (MSB LSB) = (063 000) ~ (063 009) are the RS7000 voices banks, containing a range of top-quality, up-to-date voices that are ideally suited for modern music production. The voices are organized as follows:
  - (063 000)...........SyBa&Ld1: Synth bass and synth lead bank 1.
  - (063 007)...........SyBa&Ld2: Synth bass and synth lead bank 2.
  - (063 001)...........SyPd&Fx1: Synth pad and pitched effects bank 1.
  - (063 008)...........SyBa&Fx2: Synth pad and pitched effects bank 2.
  - (063 002)...........SyMaterl: Analog and FM synthesis type voices — these are ideal for editing.
  - (063 003)...........BandInst: Piano, organ, guitar, electric bass, and other common band instruments.

(063 004) .... Cls&Wind: Classic string and wind instruments.
(063 005) .... Eth&Perc: Ethnic and percussion instruments.
(063 006) .... SFX1: Sound effect bank 1.
(063 009) .... SFX2: Sound effect bank 2.

- (MSB LSB) = (126 000) contains the RS7000 drum voices — all up-to-date and a perfect match for today's music.
- (MSB LSB) = (127 000) is the GM drum voice bank containing a single standard GM drum kit voice.
- (MSB LSB) = (064 000) ~ (064 001) are the sample voice banks. The sample voices are organized into local sample voices and common sample voices.

(064 000) .... Local Sample Voices: All 128 voices in the bank are switched when the song or style is switched.
(064 001) .... Common Sample Voices: The voices remain the same when the song or style is switched.

NOTE

*GM is a standard which assigns the same voices to the same voices numbers so that MIDI data will sound the same when played on any GM-compatible equipment. The RS7000 GM voice bank (000 000) and GM drum voice bank (127 000) have been provided to allow playback of GM data, but do not fully conform to the GM standard.

● Maximum Polyphony

The RS7000 can play up to 62 notes simultaneously. If performance data which plays a greater number of notes is received some notes will be cut off. Be careful that the maximum polyphony is not exceeded, especially when using many notes with a slow decay or release time.
Furthermore, the maximum polyphony applies to the number of voice elements used, not the number of voices. The normal voices include both 1-element and 2-element voices, so the maximum number of simultaneous notes may be less than 62. Refer to the voice list (Page 291) for a complete listing of the number of elements used by each voice.
Sample voices use 1 element, but stereo samples use 2.

Controllers

This block includes all controllers which control the sequencer and tone generator blocks: the keyboard, the assignable knobs, sequencer buttons, etc. Performance data played on the keyboard is sent to the sequencer and tone generator in the form of MIDI data, and the sequencer buttons control pattern or song playback.

● The Keyboard

In addition to sending performance (note) data to the sequencer and tone generator blocks, the RS7000 keyboard can be used in conjunction with the [KEYBOARD], [TRACK SELECT], [MUTE] and [TRANSPOSE] buttons for section switching, track selection, muting, transposition, and more.

● Assignable Knobs

The assignable knobs can be used for real-time control of play effects, voice parameters, and mixer parameters, allowing hands-on creative control over the sound in real time. In addition to the functions listed on the panel, other functions can be assigned which are memorized and automatically recalled with each style or song.

● The Velocity Pads

These velocity-sensitive pads are convenient for performance data entry. Tapping these pads enters the pre-specified note data at the specified pitch.
The pitch for each pad can be set by pressing [PAD 1] or [PAD 2] while holding the [TAP] button and the appropriate key on the keyboard.

● Scene/Mute Memory

Up to 5 complete scene and mute setups for each song and style can stored in memory and recalled whenever needed.
A "scene" includes all parameter settings for all tracks (all mixer, voice edit, mute on/off, groove, play effect, MIDI delay, BPM and transpose settings). A mute setup includes the mute on/off status for all tracks.
The ability to store and instantly recall complete scene and mute setups means that even complex setups that would take a considerable amount of time to program in real time can be called up at the touch of a button. Recall operations can be recorded to pattern chains and songs as well.
The [SCENE/MUTE] button switches between the scene and mute memory functions. The SCENE and MUTE indicators light alternately each time the button is pressed.

The [STORE] button is used to store the current scene or mute settings to one of the 5 available memory locations: [MEMORY 1] ~ [MEMORY 5]. The selected type of data is stored when a scene/mute memory button — [MEMORY 1] ~ [MEMORY 5] — is pressed while the [STORE] button is held. When pressed alone the [MEMORY 1] ~ [MEMORY 5] buttons recall the stored scene or mute data.
Store and recall operations cannot be carried out in the sampling mode.

● Sequencer Buttons

These control the basic functions of the sequencer block.

[|◀] ....Goes directly to the top measure of the current pattern or song.

[▶▶]..................................Moves forward one measure when pressed briefly, or scrolls forward continuously (fast forward) when held.

[◀◀]..................................Moves back one measure when pressed briefly, or scrolls backward continuously (fast reverse) when held.

[●] (REC).......................Switches to the phrase or song recording display.

[■] (STOP) ....Stops pattern or song playback or recording.

[▶] (PLAY) ....Starts pattern or song playback, and starts phrase or song recording.

Arpeggiator

This function automatically plays notes and chords played on the keyboard as arpeggios. In addition to driving the tone generator block, arpeggio data can be sent to the sequencer block and recorded as sequence data to a phrase or song, or transmitted to external equipment via the MIDI OUT connectors.
Arpeggios are also sometimes known as “broken chords”, and are used frequently in modern dance and techno styles. To play automated arpeggios press the [ARPEGGIO ON] button so that its indicator lights and play a chord on the keyboard.

Effects

The effect block can be used to apply effect processing to the output of the tone generator block. Three effect stages are provided — reverb, delay/chorus, and variation — and different effects can be applied to each track.

● Reverb Effect

This effect stage is especially for reverb. It can add a natural sense of ambience and space to the sound.
12 types of reverb are provided:
See the “Effect List” on Page 313 for details.

● Delay/Chorus Effects

25 delay and chorus effects are provided:
See the “Effect List” on Page 313 for details.

● Variation Effects

100 variation effects are provided, including reverb, distortion, overdrive, and much more:
See the “Effect List” on Page 313 for details.

Master EQ & Effects

This block applies equalization and effects to the final stereo output signal. This block is ideal for “mastering” the overall RS7000 sound.
8 Effect types are provided.
See the “Effect List” on Page 313 for details.

Memory Configuration

The RS7000 internal memory can be categorized as System Memory, Preset Memory, and User memory.

● System Memory

The RS7000 operating environment is retained in this memory. System setup, MIDI setup, and MIDI filter setup parameters.

● Preset Memory

This is a read-only memory (it can’t be erased or rewritten) that contains the preset phrases and voices.

● User Memory

The user memory is a volatile memory (the contents can be erased and rewritten) which is used to retain recorded phrases, patterns, and samples. A memory protect function is provided to prevent accidental erasure. The memory can hold up to 128 local samples for each style or song, 128 common samples, 5 scene and 5 mute setups, 256 user phrases for each style, 1024 patterns (64 styles × 16 sections), 20 pattern chains, and 20 songs.
The user memory is empty when the unit is shipped from the factory.

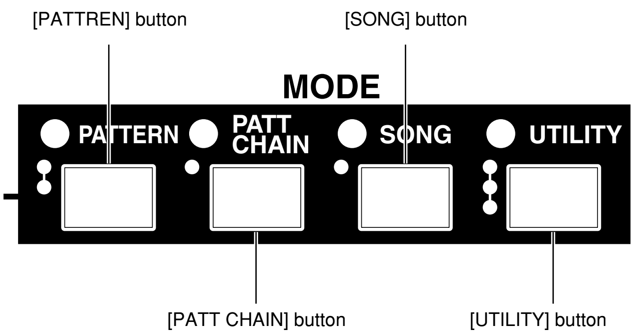
⚠ CAUTION

All user memory data is erased when the power is turned off. Be sure to save data you want to keep to a memory card or an external SCSI disk.

3. Basic Operation

Selecting Modes

The MODE buttons are used to switch between modes. When a MODE button is pressed its indicator will light and the corresponding mode will be selected.

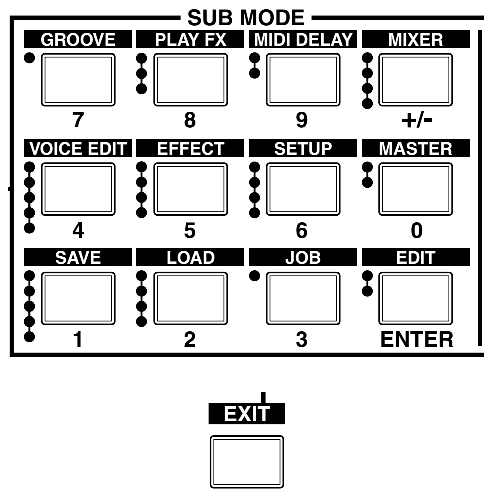


[PATTERN] .... Alternately selects the PATTERN Play and PATTERN Patch modes.
[PATT CHAIN] .... Selects the PATTERN CHAIN mode.
[SONG] .... Selects the SONG mode.
[STANDBY/START/STOP], [SAMPLE EDIT], [REAL TIME LOOP REMIX]
.... Select the corresponding sampling modes.
[UTILITY] .... Selects the UTILITY mode. The System, MIDI Setup, and MIDI Filter pages are selected in sequence each time the button is pressed. The [EXIT] button can be used to move backward through the pages.

> **NOTE**
> Modes cannot be selected during playback or recording.

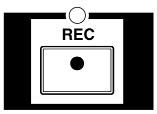
Selecting Sub Modes

Most modes have a number of sub modes that can be accessed by using the appropriate SUB MODE buttons, or the [REC] button. The [EXIT] button can be used to exit from the sub modes.

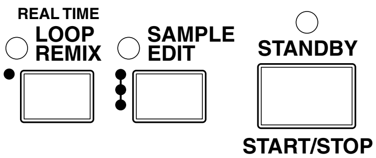


[GROOVE]................ Allows groove and feel variations to be applied to individual tracks.
[PLAY FX] .... Selects the PLAY FX Harmonize, Note, and Time pages.
[MIDI DELAY]......... Selects the MIDI DELAY MIDI Delay and Feedback pages.
[MIXER] .... Selects the MIXER Voice Select, Vol/Pan/Out, EQ, and Effect Send Level pages.
[VOICE EDIT].......... Selects the VOICE EDIT LFO, Portamento, Pitch, EG, and Filter pages.
[EFFECT] .... Selects the EFFECT Effect Type, Variation, Delay/Chorus, and Reverb pages.

[SETUP] ....Selects the SETUP Arpeggio, A/D Setup, Knob Assign, and MIDI Out Ch pages.
[MASTER] ....Selects the MASTER Master EQ and Master Effect pages.
[SAVE] ....Selects the SAVE Save, Export, Rename, Delete, and Format pages.
[LOAD] ....Selects the LOAD Load, Import, SCSI Setup and SCSI Communication pages.
[JOB] ....Accesses the job list.
[EDIT] ....Selects the Edit change and View Filter pages.



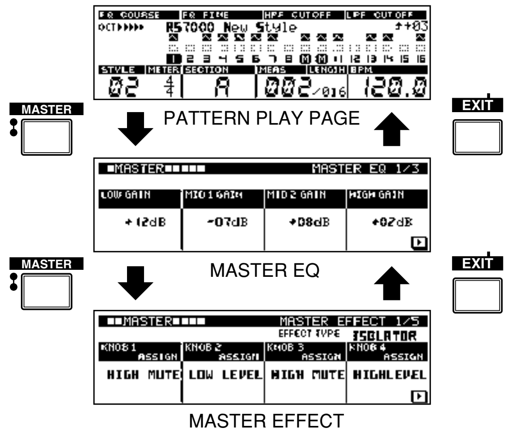
[REC].........................Selects the record standby page.



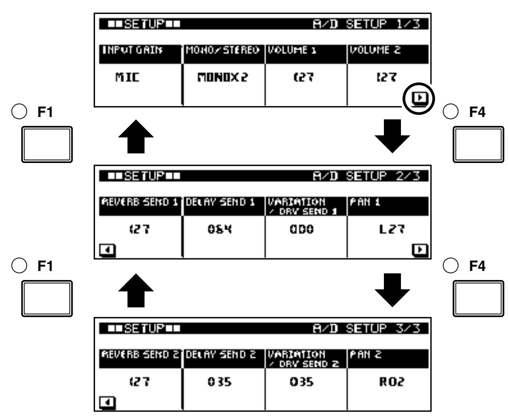
[STANDBY/START/STOP]
.................Selects the Sampling Setup and execution pages.
[SAMPLE EDIT] ......Selects the SAMPLE Trim and parameter pages, and the sample job list.
[REAL TIME LOOP REMIX]
.................Selects the Real Time Loop Remix page.

When One Button Accesses Several Pages

Some modes and sub modes have more than one display page. In such cases the various pages provided can be accessed in sequence by pressing the related button. You can move backward through the pages by using the [EXIT] button.

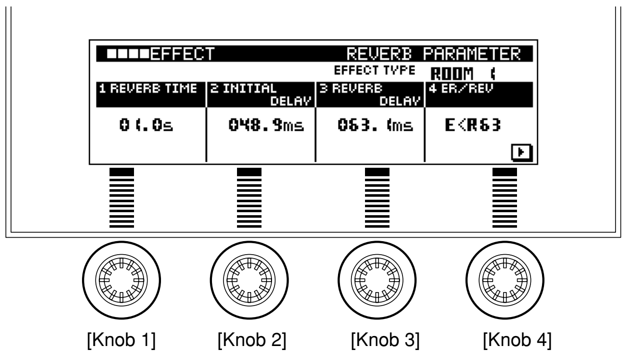


Immediately to the left of the MODE and SUB MODE buttons are a number of dots that indicate the number of pages accessed by that button. The actual titles of the pages accessed are listed on the panel to the right of the MODE and SUB MODE button groups.
Further, some mode and sub mode displays will have arrows at the bottom left or right indicating that other pages can be accessed. In this case use the [F1] or [F4] button to scroll to the next page.

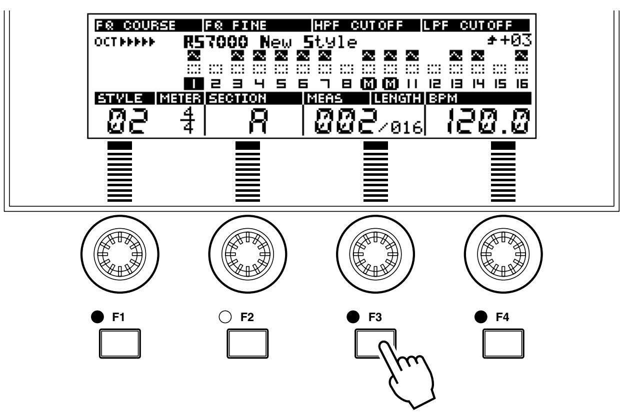


Editing Parameter Values

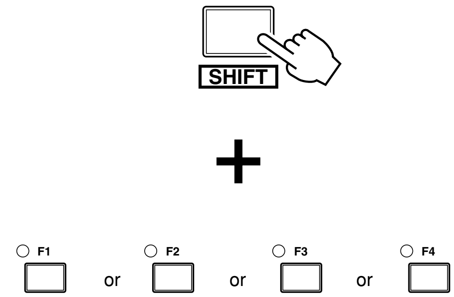
Parameters can generally be edited by using [Knob 1] ~ [Knob 4]. The parameters that can be adjusted by each knob appear immediately above each knob in each display page.



In some cases a single knob may be assigned to two parameters. Use the related function button ([F1] ~ [F4]) to switch to the desired parameter and then edit it as required using the appropriate knob.

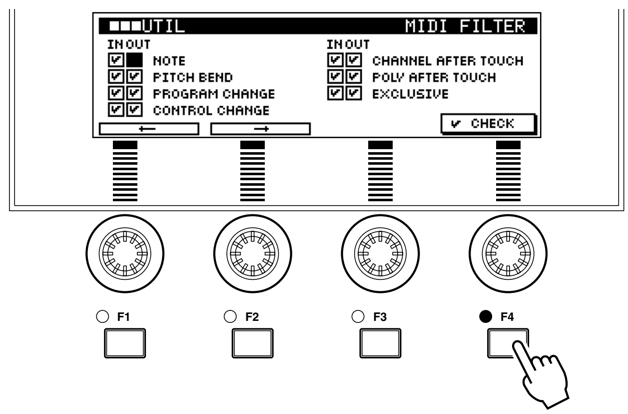


When a numeric parameter is to be edited, in some cases the SUB MODE buttons can be used as a numeric keypad for direct numeric data entry while the [SHIFT] and related function button ([F1] ~ [F4]) is held. After entering the desired value press the [EDIT] (ENTER) button to actually enter the value (it will stop flashing on the display).
(This entry method is not available for all parameters.)



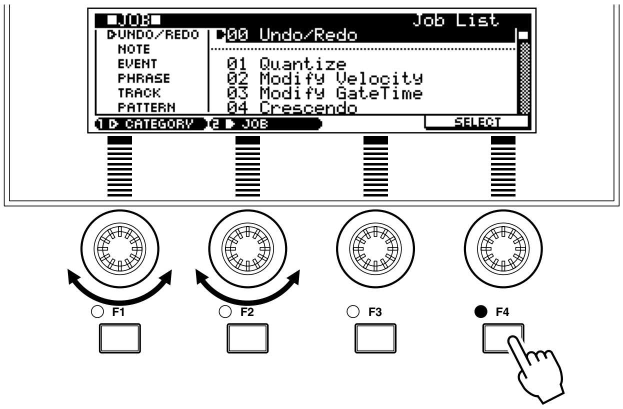
Command Selection and Execution

Command selection and execution is carried out using the [F1] ~ [F4] buttons.
When this is possible the name of the command will appear outlined above the function button at the bottom of the display, and the indicator of the corresponding function button will light.



Job Selection

In the PATTERN mode, PATTERN CHAIN mode, SONG mode, and SAMPLING mode job list pages [Knob 1] and [Knob 2] are used to move the cursor to the desired job, and then [F4] is pressed to actually select the job.



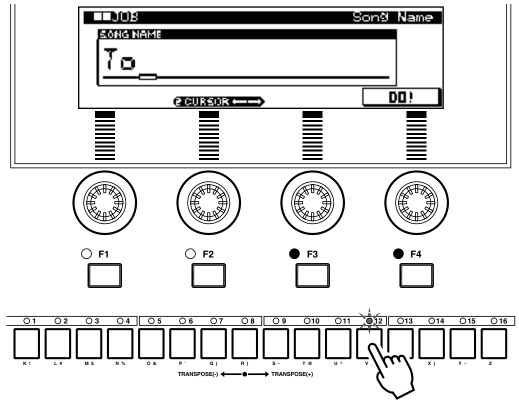
Character Entry

Style names, song names, file names for disk storage, etc. are all entered using the same procedure. As an example, here's how you would enter a file name.

1 knob, 2 function buttons, the keyboard, the [CAPS] button, and the [PAD1] and [PAD2] buttons are used for name entry.

1. Use [Knob 2] to move the cursor to the target character position.
2. Press a white or black key on the keyboard to enter the corresponding character.

   Hold the [CAPS] button while pressing a key to enter a capital letter.
   Hold down [SHIFT] and use the white keys of the keyboard pad to enter symbols.
   Press [PAD1] (SPACE) to enter a space.
   Press the [PAD2] (DEL) to delete the character at the cursor position.
3. Press [F4] to actually enter the selected character.



NOTE

File and folder names will automatically be entered in upper case.

Track Selection

Hold the [TRACK SELECT] button and press the white key on the keyboard corresponding to the track to be selected. The corresponding key indicator will flash.

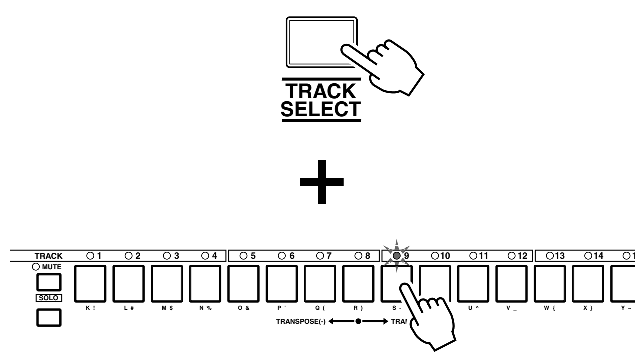
The track numbers are listed above the white keys.

Tracks can also be selected by using the black [TR-] and [TR+] keys while holding the [TRACK SELECT] button.

Groups of tracks can be selected by using the black [All], [1-8], or [9-16] keys while holding the [TRACK SELECT] button.

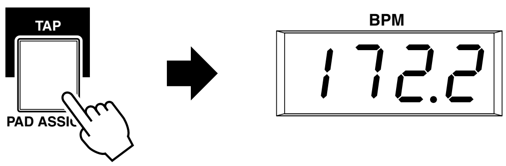
While the [TRACK SELECT] button is held the indicators above the keys will light continuously, flash, or remain off to indicate the status of the track, as follows:

Lit............... The corresponding track contains data.
Flashing...... The corresponding track is selected.
Off............. The corresponding track does not contain data.



Tap Tempo Entry

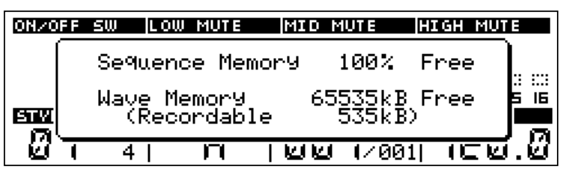
With this function you can enter a BPM setting by tapping the [TAP] button at the appropriate tempo.
Tap the [TAP] button 3 or 4 times in the PATTERN, PATTERN CHAIN, or SONG mode to automatically enter the corresponding BPM.



Tap several times to set the tempo.

Free Memory Display

If you press [UTILITY] while holding [SHIFT], the amount of free memory will be shown while the buttons are held. The amount of recordable memory (the amount of memory available for recording or loading samples) may increase if the utility mode wave memory optimize function is executed.
This will not be displayed while standing by for sequence or sample recording, or during recording.



Initializes the Master Effect settings

Press [MASTER] while holding [SHIFT] to initialize the currently selected master effect.

Undo/Redo

The Undo job cancels the changes made by the most recent operation, restoring the data to its previous state.
The Redo job cancels Undo and restores the changes.
Undo/Redo can be executed from any display page except Save, Load and Edit by pressing the [JOB] button while holding the [SHIFT] button. Undo and Redo are selected alternately each time the [JOB] button is pressed.

NOTE

- Undo/Redo cannot be used during sequencer playback or recording, or while the arpeggio function is operating.
- Undo/Redo does not work with sample voice operations.

Auto Repeat

The sequencer [◄◄] and [►►] buttons include an auto key repeat function. Hold either button to continuously scroll through the measures in the corresponding direction.

Auto Load

If the power is turned on while holding one of the white keys on the keyboard as listed below, the Auto Load function will be activated and the corresponding file will be loaded automatically.
Files to be loaded using the Auto Load function must initially be created and saved via the appropriate mode SAVE page with the file name “AUTOLOAD_1” ~ “AUTOLOAD_9”, using the “ALL” file type.
Once a file has been set it will be automatically loaded without having to press a keyboard key.

White Key [1] ....AUTOLD_1.R2A
White Key [2] ....AUTOLD_2.R2A
White Key [3] ....AUTOLD_3.R2A
White Key [4] ....AUTOLD_4.R2A
White Key [5] ....AUTOLD_5.R2A
White Key [6] ....AUTOLD_6.R2A
White Key [7] ....AUTOLD_7.R2A
White Key [8] ....AUTOLD_8.R2A
White Key [9] ....AUTOLD_9.R2A
White Key [10] ....Auto Load function Off

For example, if you’re working on a project but need to stop and turn the power off for a while, save the project with the file name “AUTOLD_1”. Then, hold the [1] white key when you turn the power back on and the project will be automatically reloaded.

NOTE

- If a SCSI drive is connected, first a memory card will be searched in file order, then drives with SCSI IDs 0 ~ 7 will be searched in order, and the first matching file located will be loaded.
- The “AUTOLD_1.R2A” file is set to be loaded automatically as the factory default.

Chapter 2. The Pattern Mode

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1. Pattern Playback 72
2. Combining Phrases to Create Patterns (Patch) 75
3. Phrase Recording 77
4. Adding Groove to a Pattern 85
5. Play Effects 87
6. MIDI Delay 90
7. Adjusting Level and Effects for Each Track (Mixer) 93
8. Changing the Sound of Voices (Voice Edit) 97
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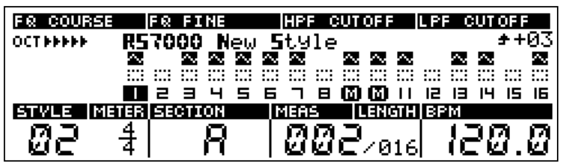
10. Arpeggio & Assignable Knob Settings (Setup) 107
11. Master EQ and Effects 111
12. Saving to Memory Card or Disk 114
13. Loading From Memory Card or Disk 126
14. Pattern & Phrase Editing — The Pattern Jobs 133
15. Phrase Editing 154

About the Pattern Mode

This mode is used to play and create patterns. Patterns can be created using up to 16 tracks. Phrases, which make up the patterns, can also be recorded and edited in this mode. Press the [PATTERN] button to enter the PATTERN Play mode. The pattern play page display will appear on the LCD.

PATTERN Play



> **NOTE**
> For more information on patterns and phrases see “Chapter 1: Basics”, page 59.

Sub Modes of the Pattern Mode

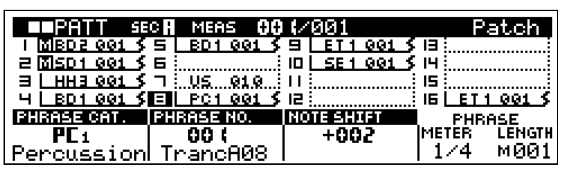
The PATTERN mode is made up of the following 15 Sub Modes.

● PATTERN Play...(Page 72)

Patterns can be selected and played. This display page always appears first when the PATTERN mode is engaged.

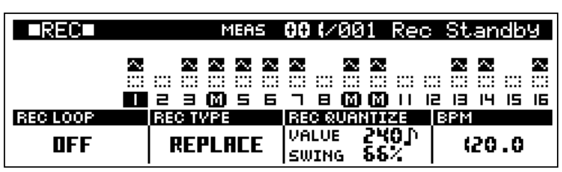
● PATTERN Patch...(Page 75)

Phrases are combined to create patterns.



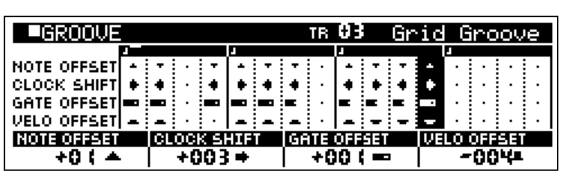
● Phrase Recording...(Page 77)

Original phrases can be created by recording to “user” phrases.



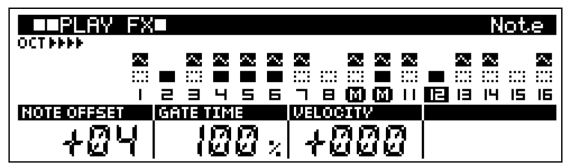
● Groove...(Page 85)

Allows groove and feel variations to be applied to individual tracks.



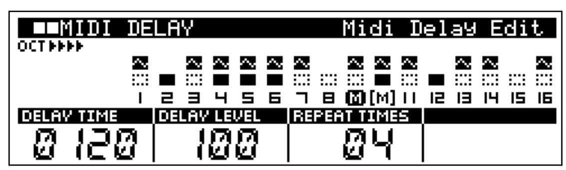
● Play Effects...(Page 87)

Add depth and harmony to individual tracks.



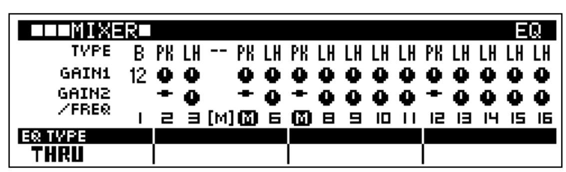
● MIDI Delay...(Page 90)

Adds a special MIDI-based delay effect to individual tracks.



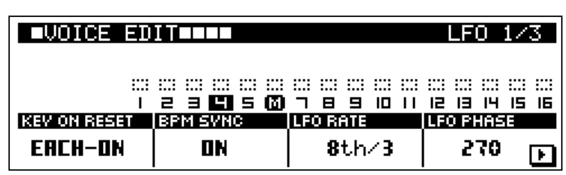
● Mixer...(Page 93)

Individually adjusts the volume, effect level and other parameters for each track.



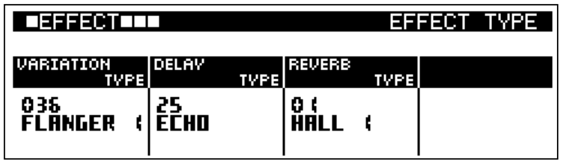
● Voice Edit...(Page 97)

Edits the voices assigned to each track.



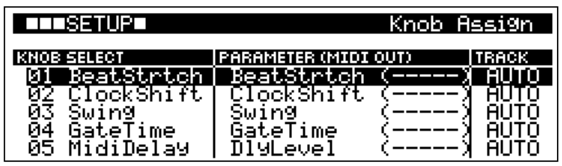
● Effect...(Page 104)

Sets the effects for the REVERB, DELAY/CHORUS, and VARIATION effect stages.



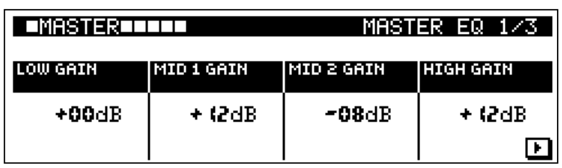
● Setup...(Page 107)

Provides access to the arpeggiator, knob assignment, MIDI channel, and AD input setting.



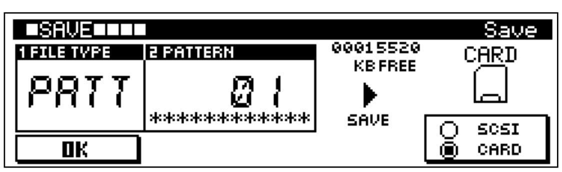
● Master...(Page 111)

Provides access to the master EQ and master effect settings.



● Save...(Page 114)

Saves data to memory card or disk.

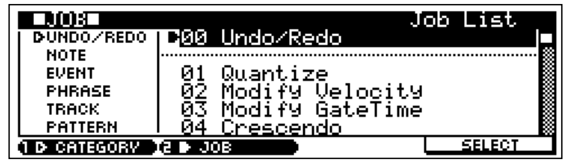


● Load...(Page 126)

Loads data from memory card or disk.

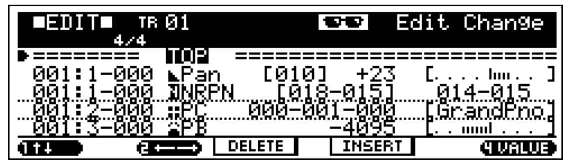
● Job...(Page 133)

Accesses the pattern and phrase editing jobs.



● Phrase Edit...(Page 154)

Allows editing or insertion of new data in recorded phrases.



2

The Pattern Mode

1. Pattern Playback

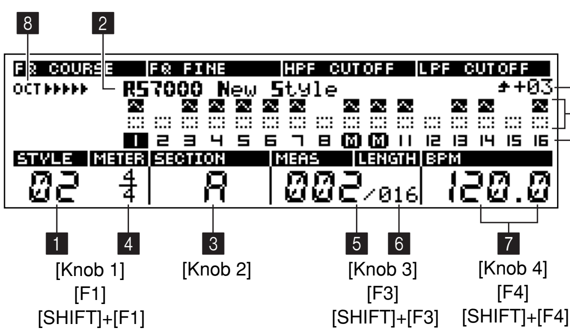
Select and play patterns.
This display always appears first when the [PATTERN] button is pressed to enter the PATTERN mode.

Pattern Playback Procedure

1. Select the playback pattern by setting the STYLE and SECTION parameters.
2. When the [PLAY] button is pressed the PLAY indicator will flash and pattern playback will begin.
3. Press [STOP] to stop playback.

> **NOTE**
> The parameters in the PATTERN Play page can be changed during pattern playback. Changes made during playback are saved as pattern data. (when MEMORY PROTECT is OFF).

Display Parameters



1 STYLE (Style Number)

............................[Knob 1], [SHIFT]+[F1] → Numeric Keypad

2 Style Name

3 SECTION ....[Knob 2]

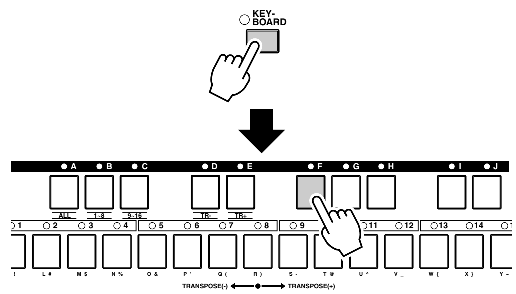
[Settings]

Style Number	**01 ~ 64**
Style Name	**Display only**
Section	**A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P**

The pattern to be played back is selected by specifying the style number and section.

> **NOTE**
> For more information about styles and sections see “Chapter 1: Basics”, page 59.

[Section Selection Procedure]
Sections A through J can also be selected via the keyboard. Press the [KEYBOARD] button so that its indicator goes out, then use the black keys to select the corresponding section.



The black-key indicators indicate section status as follows:
- Lit .... The corresponding section contains playback data.
- Flashing .. The corresponding section is selected.
- Off .... The corresponding section does not contain playback data.

4 METER...[F1] → [Knob 1]

[Settings] 1/16 ~ 16/16, 1/8 ~ 16/8, 1/4 ~ 8/4

Specifies the meter (time signature) for the pattern.
Use [F1] to move the cursor to the meter parameter, and then use [Knob 1] to set as required.

5 MEAS (Measure)

.... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

6 LENGTH

.... [F3] → [Knob 3], [SHIFT]+[F3] → Numeric Keypad

[Settings]

Measure............001 ~ Length
Length ....001 ~ 256

MEAS shows the current measure number during playback. [Knob 3] can be used to change the measure number, and thus the playback position.
LENGTH shows the length of the pattern in measures.
The length of the pattern can be set by pressing [F3] to move the cursor to LENGTH, and then using [Knob 3].

> **NOTE**
> - The [|◀], [◀◀], and [▶▶] buttons can also be used to change the measures number (also during playback).
> - Press [STOP] while holding [SHIFT] to set the current measure as the jump location (the measure to which the song position will jump when playback is stopped). The jump setting can be cancelled by pressing [◀◀] or [▶▶] while holding [SHIFT].

7 BPM (Tempo) .... [Knob 4], [F4] → [Knob 4], [SHIFT]+[F4] → Numeric Keypad

[Settings] 001.0 ~ 300.0 (BPM)

Sets the pattern playback tempo.
Use [Knob 4] to adjust the BPM in steps of 1, or press [F4] to move the cursor to the right of the decimal point and use [Knob 4] to adjust in steps of 0.1.

> **NOTE**
> BPM can also be set by using the [TAP] button (Page 68).

8 OCT (Octave)

[Settings] -5 octaves ~ +5 octaves

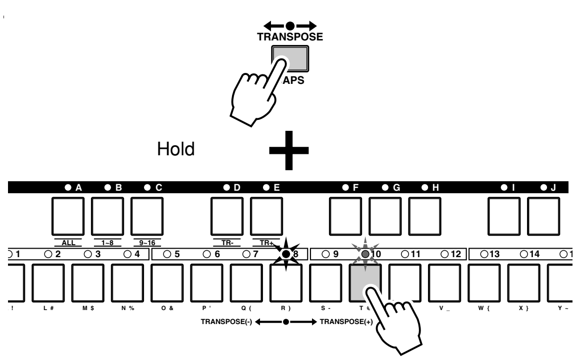
Shows the current octave setting of the keyboard.
Each "◀" on the display corresponds to one octave down, and each "▶" corresponds to one octave up.
The keyboard octave can be changed by pressing the [KEYBOARD] button so that its indicator lights, and then using the [OCT DOWN] and [OCT UP] buttons to set the octave.
Press the [OCT DOWN] and [OCT UP] buttons simultaneously to restore the normal keyboard octave settings (no octave shift).

9 Transpose

[Settings] -36 ~ 0 ~ +36 (semitones)

Transposes the pitch of pattern playback.
Transposition is set in semitone increments. A setting of "12" transposes by one octave.

[Procedure]
Transposition is set by holding the [TRANSPOSE] button and pressing the key on the keyboard corresponding to the desired amount of transposition above or below the central C (track 8) key.
While the [TRANSPOSE] button is held the middle C indicator will light and the indicator of the selected transpose key will flash. If a black key is specified the indicators on either side of the key will flash.
To transpose by more than an octave first press the [OCT DOWN] or [OCT UP] button and then the keyboard.



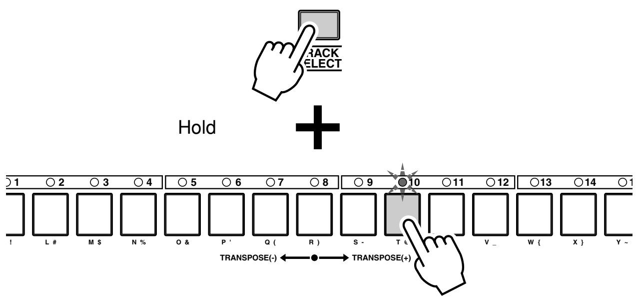
10 Track

[Settings] 01 ~ 16

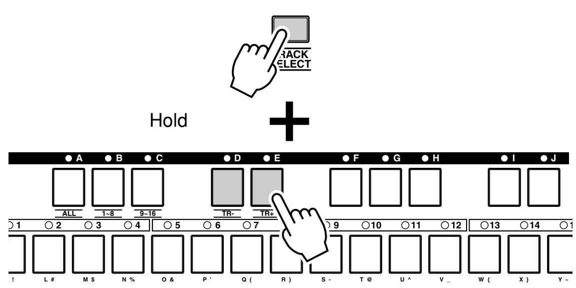
Shows the track numbers.
The currently selected track number is highlighted.

[Track Selection Procedure]
Hold the [TRACK SELECT] button and press the white key on the keyboard corresponding to the track to be selected. The corresponding key indicator will flash.
The track numbers are listed above the white keys.
While the [TRACK SELECT] button is held the indicators above the keys will light continuously, flash, or remain off to indicate the status of the track, as follows:

Lit............ The corresponding track contains data.
Flashing... The corresponding track is selected.
Off........... The corresponding track does not contain data.



> **NOTE**
> If both the [KEYBOARD] and [MUTE] button indicators are out, tracks can be directly selected by pressing the white keys on the keyboard.
> The sequence in the corresponding track will play while the key is held.
> Tracks can also be selected by using the black [TR-] and [TR+] keys while holding the [TRACK SELECT] button.



11 Track Status

Indicate whether the corresponding track contains data, as well as the mute or solo status of the track.

■: The track contains sequence data.

⬚: The track is empty.

[M]: The track is muted (no sound will be produced by this track).

[S]: The track is soloed (all other tracks are temporarily muted and only this track will sound).

[sample icon]: Sample data is assigned to this track.

[Mute & Solo Setting Procedure]

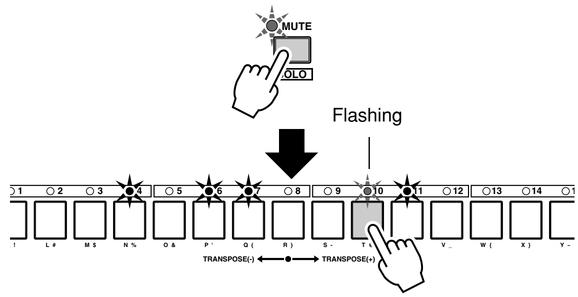
1. To use the mute function first press the [MUTE] button so that its indicator lights.
To use the solo function press the [MUTE] button while holding the [SHIFT] button so that the indicator flashes.

> **NOTE**
>
> While the [MUTE] button indicator is either lit or flashing, the indicators above the keyboard white keys will be lit, flashing, or off, indicating the status of the tracks as follows:
>
> Lit ....The corresponding track contains data.
> Flashing ......The corresponding track is muted or soloed.
> Off ....The corresponding track does not contain data.

2. Press a white key on the keyboard to mute or solo the corresponding track.

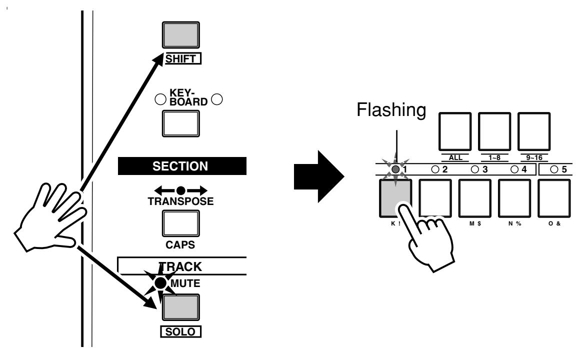
• Mute

When a white key is pressed to mute a track the corresponding key indicator will flash. Additional white keys can be pressed to mute multiple tracks.



• Solo

When a white key is pressed to solo a track the corresponding key indicator will flash. When a different white key is pressed the solo function switches o the new track (only one track can be soloed at a time).

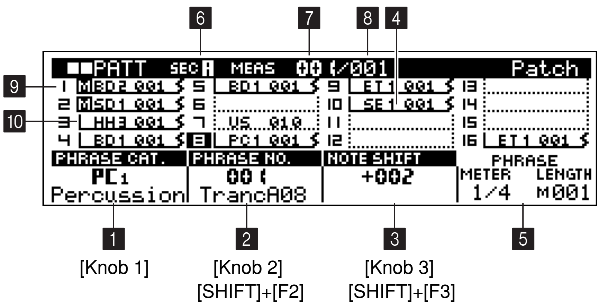


3. When the [MUTE] button is pressed so that its indicator goes out the solo function is disengaged and all tracks will sound. Muted tracks will remain muted.

2. Combining Phrases to Create Patterns (Patch)

Phrases can be combined to create patterns.
Pressing the [PATTERN] button alternately selects the PATTERN Play page and this page (PATTERN Patch).

Display Parameters



1 PHRASE CAT. (Phrase Category)..............[Knob 1]

2 PHRASE NO. (Phrase Number)

...........................[Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings]

Phrase Category	**No Phrase, US (User)** **For more information on the preset phrase categories refer to Appendix (Page 313).**
Phrase Number	**001 ~ 256 (the actual range will depend on the selected phrase category)**

Select a phrase category and phrase number to assign a phrase to the currently selected track.

> **NOTE**
> See page 72 in “1. Pattern Playback” for the track selection procedure.

3 NOTE SHIFT

...........................[Knob 3], [SHIFT]+[F3] → Numeric Keypad

[Settings] -127 ~ +127 (semitones)

Shifts the pitch of the note data in the current phrase up or down in semitone increments.

> **NOTE**
> If a phrase which uses a drum kit voice is note-shifted, the drum instrument sounds will change.

4 Phrase

Displays the phrases assigned to each track. Phrase assignment is accomplished using [Knob 1] and [Knob 2].
The phrase “boxes” on the display indicate the following:

- ....A user phrase which contains no data.
- FX1001 ....The phrase is shorter than the specified length of the pattern.
- FX1001 ....The phrase is longer than the specified length of the pattern.
- FX1001 ....The phrase is shorter than the specified length of the pattern.

5 PHRASE METER, PHRASE LENGTH

Displays the meter and length in measures of the phrase assigned to the currently selected track.

6 SEC (Section)

[Settings]

Section **A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P**

Displays the currently selected section.

> **NOTE**
> See page 72 in “1. Pattern Playback” for the section selection procedure.

7 MEAS (Measure)

8 LENGTH

MEAS displays the current measure during playback.
Length is the length of the pattern in measures.

> **NOTE**
> The [|◄], [◄◄], and [►►] buttons can be used to change the measures number (also during playback).

9 Track

Track numbers.
The currently selected track number is highlighted.

> **NOTE**
> See page 72 in “1. Pattern Playback” for the track selection procedure.

10 Track Status

Indicate whether the corresponding track contains data, as well as the status of the track.
: Sample data is assigned to this track.
[M]: The track is muted (no sound will be produced by this track).
[S]: The track is soloed (all other tracks are temporarily muted and only this track will sound).

> **NOTE**
> See page 72 in “1. Pattern Playback” for the mute and solo setting procedure.

Pattern Assembly Procedure

1. Use the [UTILITY] MODE button to access the SYSTEM page, then use [Knob 4](MEMORY PROTECT) to turn MEMORY PROTECT “OFF” (Page 257).
2. Press [PATTERN] button to go to the PATTERN Play page, and set the STYLE and SECTION parameters to select the pattern you want to create.
   You can give the style a name, if required (Page 153).
3. Press [F3] to move the cursor to the LENGTH parameter, and use [Knob 3](LENGTH) to set the length of the pattern.
4. Press [F1] to move the cursor to the METER parameter, and use [Knob 1](METER) to select the desired meter.
5. Press the [PATTERN] button again to go to the PATTERN Patch page.
6. Select a track to which you want to assign a phrase (Page 67).
7. Use [Knob 1](PHRASE CAT.) and [Knob 2](PHRASE NO.) to select the phrase to be assigned to the selected track. Press [PLAY] to hear the phrases during selection.
8. If necessary use [Knob 3](NOTE SHIFT) to set a note-shift value for the current phrase.
9. To adjust the BPM, press [PATTERN] to return to the PATTERN Play mode and use [Knob 4](BPM) to adjust as required.
10. Use the SUB MODE buttons (GROOVE … SETUP) to set other parameters as required (refer to the respective SUB MODE sections of the manual).

3. Phrase Recording

Create original phrases by recording performance data to user phrases.
Three recording modes are available: real-time recording, step recording, and grid-step recording.

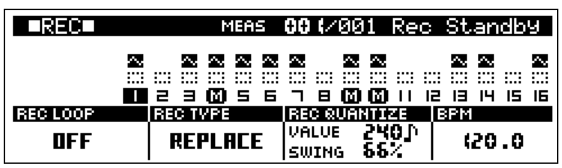
> **NOTE**
> Before beginning recording, make sure that the UTILITY mode MEMORY PROITECT function is “OFF” (Page 257). Recording is not possible when memory protection is turned on.

The Phrase Recording Display

Phrase Recording has the following display pages.

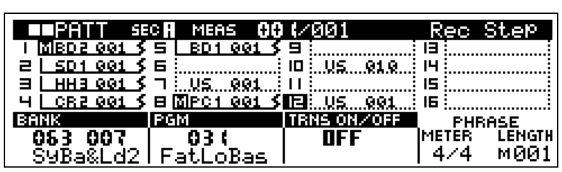
● Record Standby (PATTERN Play)...(Page 78)

This page is used to prepare for recording performance data to the currently selected phrase.
Parameters such as loop recording, the recording type, and record quantize are accessible via this page.



● Record Standby (PATTERN Patch)...(Page 79)

This page is used to prepare for recording performance data to a phrase.
Voice selection and transposition can be carried out via this page.



● Real-time Record...(Page 80)

This recording mode allows notes played via the RS7000 and variations applied via the assignable knobs, as well as performance data from external MIDI devices, to be recorded in real time. Recording can be carried out while monitoring playback of other tracks.

Real-time Record: Replace...(Page 80)

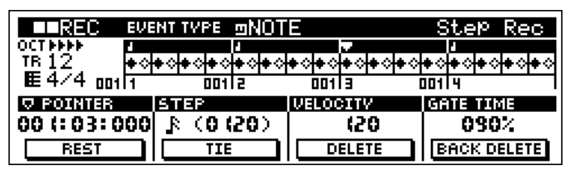
Any previous data in the recorded track will be erased (overwritten) and replaced by the new performance data. This is handy when you need to re-record the same part several times.

Real-time Record: Overdub...(Page 80)

This mode allows material to be added to existing material on a track. Previous performance data will not be erased. This makes it easy to create parts by recording them a little at a time.

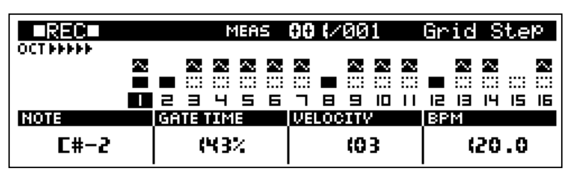
● Step Record...(Page 80)

This mode allows notes to be entered one at a time. Step recording makes it easy to create user phrases even if you can’t play the phrase in real time.
Notes are entered by first specifying the note type, and then the note pitch via the keyboard.



● Grid Step Record...(Page 83)

As in the Step record mode, notes are entered one at a time. After specifying the note’s pitch, the note is entered at the grid position (timing) specified by the keyboard.
This method is particularly useful when entering drums and sequenced phrases which use consecutive notes of the same pitch.



Record Standby

Prepare to record to the currently selected user phrase.

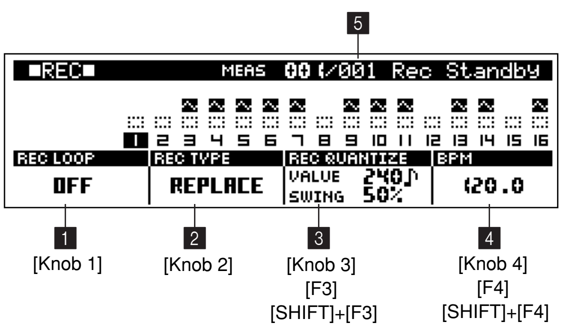
Record Standby Procedure

1. Press [PATTERN] to engage the PATTERN Play mode.
2. Select the pattern for which a phrase is to be recorded.
3. Select an empty track by using the white keyboard keys while holding the [TRACK SELECT] button.
4. Press the [REC] button to go to the Rec Standby display. If the PATTERN Play page is showing when the [REC] button is pressed the PATTERN Play Rec Standby page will appear. If the PATTERN Patch page is showing when the [REC] button is pressed the PATTERN Patch Rec Standby page will appear.

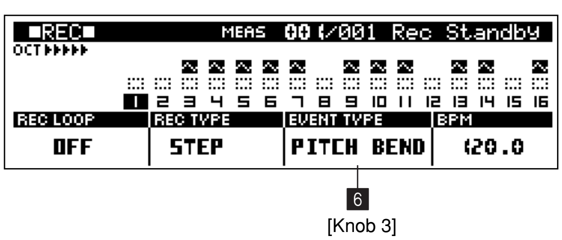
Display Parameters

Record Standby (PATTERN Play)

REC TYPE = REPLACE or OVERDUB



REC TYPE = STEP



1 REC LOOP (Record Loop)............................ [Knob 1]

[Settings] ON, OFF

Turns loop recording ON or OFF.
When ON, the phrase will play repeatedly during real-time recording. This can be handy when recording drums parts, for example, in which you want to add different instruments on each pass.
When OFF recording stops after one pass through the phrase.

2 REC TYPE (Record Type) .... [Knob 2]

[Settings] REPLACE, OVERDUB, STEP, GRIDSTEP

Selects the record mode.
For more details on each record mode see "3. Phrase Recording" on the previous page.

3 REC QUANTIZE (Record Quantize)......... [Knob 3], [F3]→[Knob 3], [SHIFT]+[F3] → Numeric Keypad

[Settings]

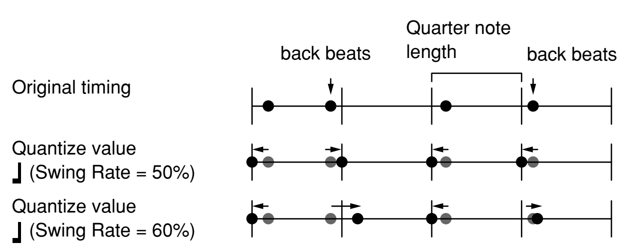
VALUE

OFF, 60 𝅘𝅥𝅰 (32nd note), 80 𝅘𝅥𝅯3 (16th note triplet), 120 𝅘𝅥𝅯 (16th note), 160 ♪3 (8th note triplet), 240 ♪ (8th note), 320 ♩3 (1/4 note triplet), 480 ♩ (1/4 note)

SWING

OFF when VALUE = OFF
50% ~ 75% when VALUE = 60 𝅘𝅥𝅰, 120 𝅘𝅥𝅯, 240 ♪, 480 ♩
66% ~ 83% when VALUE = 80 𝅘𝅥𝅯3, 160 ♪3, 320 ♩3

Record quantize aligns the timing of notes which are not exactly on the beat on-the-fly as you record.
The record quantize parameters can be set in the Rec Standby mode when the REPLACE or OVERDUB record type is selected.
The quantize VALUE parameter specifies the note timing to which the nearest recorded notes will be aligned.
The quantize SWING parameter specifies by how much the timing of notes on even-numbered beats (back beats) will be delayed to create a swing feel. When a triplet VALUE is specified, the last note of each triplet is affected by the SWING parameter.



To adjust the SWING parameter, press [F3] to move the cursor to SWING, then use [Knob 3] to adjust.

> **NOTE**
> - When the OVERDUB record type is selected, quantization will also be applied to the existing data in the track.
>   The first playback, however, will not be affected (quantization will be applied, however).
> - When record quantize is not OFF, quantization is applied to all controller data in addition to the note data. Use the Quantize job to quantize only the note data.

4 BPM (Tempo) .... [Knob 4], [F4] → [Knob 4], [SHIFT]+[F4] → Numeric Keypad

This parameter has the same effect as in the PATTERN Play mode. See page 72 for details.

5 LENGTH

This parameter specifies the length of the phrase to be recorded in measures.
This parameter cannot be set in the Rec Standby mode. Be sure to set the LENGTH parameter in the PATTERN Play mode before engaging Rec Standby.

> **NOTE**
> For example, to create a 1-measure phrase that will repeat during an 8-measure pattern, do the following:
> 1. In the PATTERN Play mode set the LENGTH to 1.
> 2. Record the new phrase.
> 3. In the PATTERN Play mode set the LENGTH back to 8.

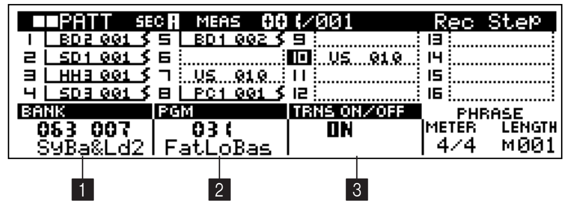
6 EVENT TYPE ....[Knob 3]

When the STEP record type is selected this parameter specifies the type of event to be recorded.

[Settings] NOTE, PITCH BEND, CC[000] ~ CC[119]

Specifies the type of data to be recorded.
When NOTE is selected notes data is recorded.
When PITCH BEND is selected pitch bend change data is recorded.
When CC[000] ~ CC[119] is selected, the corresponding control change data is recorded: volume, pan, expression, etc. For CC[000] ~ CC[119], select the control number of the data (volume, pan, expression, etc.) that you wish to record. Only when inputting the control change number, you can use [SHIFT] + [F3] for numeric key input.

Record Standby (PATTERN Patch)



1 BANK (Voice Bank) .... [Knob 1], [F1] → [Knob 1], [SHIFT]+[F1] → Numeric Keypad

2 PGM (Program Number) .... [Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings]

Voice Bank (Bank Select MSB, LSB)

*** *** **(Phrase), 000 000 (GM),**
063 000 (SyBa&Ld), 063 001 (SyPd&Fx1),
063 002 (SyMater1), 063 003 (BandInst),
063 004 (Cls&Wind), 063 005 (Eth&Perc),
063 006 (SFX1), 063 007 (SyBa&Ld2),
063 008 (SyPd&FX2), 063 009 (SFX2),
064 000 (SmpLocal), 064 001 (SmpCmn),
126 000 (DrumKit), 127 000 (GM Drum)

Program Number

001 ~ 128 (depends on the voice bank)

Selects a voice for the phrase to be recorded.
Voice banks organize voices in voice-type categories, and are selected using MIDI bank select MSB and LSB data. For more details on voice banks refer to "Chapter 1: Basics", page 61.
The program number parameter selects the individual voices in each bank.
To access the BANK LSB, press [F1] to move the cursor to the LSB value then use [Knob 1] to adjust.

> **NOTE**
> The voice selected here is used when the voice bank parameter in the PATTERN mode MIXER display (Page 93) is set to "Phrase".

3 TRNS ON/OFF (Transpose ON/OFF)........ [Knob 3]

[Settings] ON, OFF

Determines whether transpose setting changes will affect the phrase to be recorded.
When ON, transpose setting changes will transpose the recorded data.
When OFF, transpose setting changes will not affect the recorded data.
It is a good idea to turn this parameter OFF when recording drum phrases or other phrases you do not want to be transposed.

Real-Time Recording

Real-time recording allows anything played on the RS7000 keyboard, operation of the assignable knobs, and data received from an external MIDI controller to be recorded in real time.
In this section we'll look at the real-time REPLACE or OVERDUB recording procedure.

Record Procedure (REPLACE, OVERDUB)

1. Press [PATTERN] to enter the PATTERN Play mode.
2. Specify a style and section to select the pattern for which the phrase is to be recorded (Page 72).
3. Press [PATTERN] to switch to the PATTERN Patch mode.
4. Select a track and a user phrase (Page 75).
5. Press [REC] to engage the Rec Standby mode (PATTERN Patch).
6. Use [Knob 1](BANK) and [Knob 2](PGM) to select a voice for the phrase.
   If necessary also use [Knob 3](TRANS ON/OFF) to turn transposition ON or OFF.
7. Press [PATTERN] to switch to the PATTERN Play Rec Standby mode.
8. Use [Knob 2](REC TYPE) to select the REPLACE or OVERDUB record type.
   Use [Knob1](REC LOOP) to turn the REC LOOP parameter ON or OFF, as required. Also use [Knob 3](REC QUANTIZE) and [F3] to set up record quantize, and [Knob 4](BPM) to set the BPM as required.
9. Press [PLAY] and begin recording after the count-in.
10. Play the part on the keyboard and assignable knobs.
11. Tracks can be switched during recording.

> **NOTE**
> - If REC LOOP is ON, the phrase being recorded will continue to loop until the [STOP] button is pressed.
> - Mistakes can be "erased" by holding the [SHIFT] button and pressing the key corresponding to the note or instrument you want to erase.
> - Assignable knob data can also be erased by holding the [SHIFT] button and operating the appropriate knob. The knob data is erased from the point at which the [SHIFT] button is held and the knob operated until the [SHIFT] button is released.

12. Stop recording and return to the PATTERN Play (or PATTERN Patch) mode by pressing the [STOP] button.

> **NOTE**
> Pressing [JOB] while holding [SHIFT] directly accesses the "00 Undo/Redo" phrase job (Page 68, Page 134), allowing the previous record operation to be undone. This is useful if, for example, you've accidentally erased material on a track you wanted to keep by recording in the REPLACE mode.

Step Recording

User phrase notes, pitch bend data and control change data can be recorded step-by-step.

Record Procedure

1. Press [PATTERN] to enter the PATTERN Play mode.
2. Specify a style and section to select the pattern for which the phrase is to be recorded (Page 72).
3. Press [PATTERN] to switch to the PATTERN Patch mode.
4. Select a track and a user phrase (Page 75).
5. Press [REC] to engage the Rec Standby mode (PATTERN Patch).
6. Use [Knob 1](BANK) and [Knob 2](PGM) to select a voice for the phrase.
   If necessary also use [Knob 3](TRANS ON/OFF) to turn transposition ON or OFF.
7. Press [PATTERN] to switch to the PATTERN Play Rec Standby mode.
8. Use [Knob 2](REC TYPE) to select the STEP record type.
9. Use [Knob 3](EVENT TYPE) to select the type of data you want to record: notes, pitch bend, or control change.
10. Press [PLAY] and the Step Rec display will appear.

● **Recording Notes**

11. Use [Knob 1](POINTER) to move the pointer to the position at which you want to enter a note, [Knob 2](STEP) to set the note length, [Knob 3](VELOCITY) to set the note velocity, and [Knob 4](GATE TIME) to set the gate time.
12. Enter the note by pressing the appropriate key on the keyboard.
    Press [F1](REST) to enter a rest, or [F2](TIE) to enter a tie.
    The [F3] (DELETE) and [F4] (BACK DELETE) buttons can be used to delete entered notes.

> **NOTE**
> If you press the [PLAY] button the [PLAY] indicator will flash and you will be able to hear how your step-recorded phrase is shaping up. Press [STOP] to stop playback and continue entering notes in the step mode.

13. Stop recording and return to the PATTERN Play (or PATTERN Patch) mode by pressing the [STOP] button.

> **NOTE**
> In the step recording mode notes are actually entered when the keys are released. So when entering chords be sure to press all notes you want to enter before releasing the keys.

● **Recording Pitch Bend or Control Change Data**

11. Use [Knob 1](POINTER) to move the pointer to the position at which you want to enter the data, [Knob 2](STEP) to set the data step size, and [Knob 3](VALUE) to set the value.

12. Enter the specified data by pressing a key on the keyboard. All keys have the same effect except when "KEYBOARD" is selected by [Knob 3](VALUE), in which case the value entered depends on the key pressed.
Press [F1](REST) to enter a rest. The [F3] (DELETE) and [F4] (BACK DELETE) buttons can be used to delete entered notes.

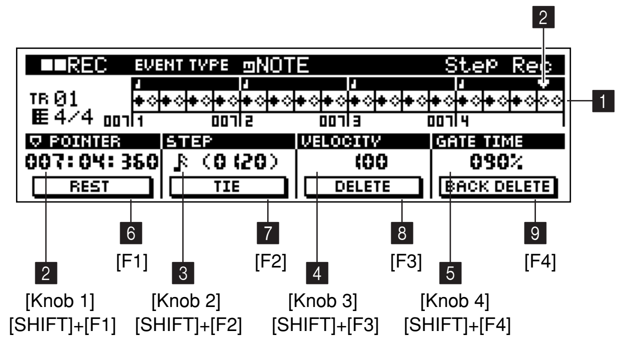
13. Press the [PLAY] button to hear how your step-recorded phrase is progressing. Press [STOP] to stop playback.

14. Stop recording and return to the PATTERN Play (or PATTERN Patch) mode by pressing the [STOP] button.

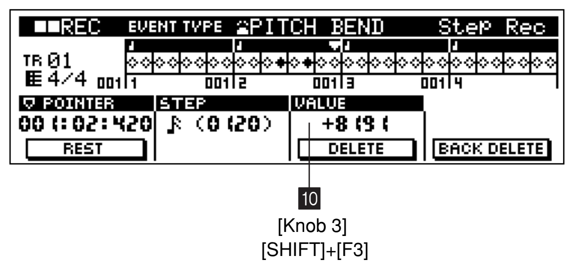
> **NOTE**
> When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.

Display Parameters

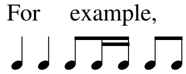
When "NOTE" has been selected via the EVENT knob

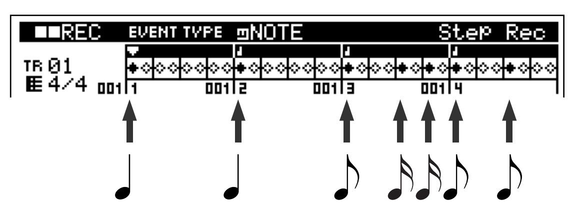


When the EVENT type is not "NOTE"



1 Beat Graph

This is the display in which notes are "placed" during step recording.
When the meter is 4/4, the display is divided into 4 beats (one measure). Each diamond-shaped marker in the display represents 1 32nd beat (each 1/4 note division is divided into 8 32nd beats).
For example, if the following rhythmic pattern  is entered in 4/4 time the display will appear like the one shown below.



2 POINTER ...... [Knob 1], [SHIFT]+[F1] → Numeric Keypad

[Settings] 001:01:000 ~ Pattern Length

Sets the data-entry position.
The triangular pointer above the beat graph indicates the data-entry position.
Rotating the [knob 1] causes the pointer to move left or right, accordingly.

2 The Pattern Mode

3 STEP (Step Time)...[Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings]

Settings made via the knob

0001 ~ 0059, 32nd note, 16th note triplet, 16th note, 8th note triplet, 8th note, 1/4 note triplet, 1/4 note, half note, whole note

Settings made via the numeric keypad

0001 ~ 9999 clocks

Specifies the length of the note or rest to be entered.
When the PB or CC event type is selected this parameter specifies the step time:
the size of the step the pointer will move to the next position after an event is entered.

4 VELOCITY.....[Knob 3], [SHIFT]+[F3] → Numeric Keypad

[Settings] 001 ~ 127, RND1 ~ RND4 (random)

Specifies the velocity value with which the note will be entered.
The set value (1 ~ 127) corresponds to the MIDI velocity value entered.
When one of the random settings is selected (RND1 ~ RND4) a random velocity value will be entered.
RND1 ~ RND4 can be set by using [SHIFT] + [F3] → Numeric keypad to enter 128 ~ 131.

5 GATE TIME...[Knob 4], [SHIFT]+[F4] → Numeric Keypad

[Settings] 001% ~ 200%

Sets the gate time to produce slurs, staccato notes, etc.
“Gate time” refers to the actual length of time the note sounds. For the same 1/4 note, for example, a long gate time will produce a slur while a short gate time will produce a staccato effect.
Gate time is indicated as a percent value of the step time.
A setting of 50% produces a staccato sound, values between about 80% and 90% produce normal note length, and a value of 99% will produce a slur.

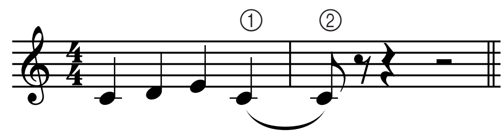
6 REST ....[F1]

Press [F1] to enter a rest as long as the specified step time. The point will move ahead to the next data-entry position. Rests do not appear on the display.

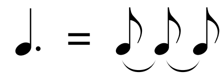
> **NOTE**
> There is no actual data representing rests. When a “rest” is entered the pointer simply moves ahead to the next data-entry position, effectively leaving a rest.

7 TIE ....[F2]

When [F2] is pressed to enter a tie the preceding note is lengthened to the full step time. For example, in the following phrase note ① is entered with 1/4 note step time. If the step time is then changed to an 8th note and [F2] is pressed, note ② is entered.



Dotted notes can also be entered using the TIE function. To produce a dotted 1/4 note, for example, enter the step time to an 8th note, then press [F2] twice.



8 DELETE..[F3]

Deletes all notes at the current pointer position.
Use [Knob1] (POINTER) while holding [F3] to delete all notes at the pointer positions.

9 BACK DELETE ....[F4]

Moves the pointer backward by one step and deletes all notes at that location.

> **NOTE**
> Mistakenly entered notes can be erased by pressing [F4] immediately after they are entered (before changing the step time value).

10 VALUE............. [Knob3], [SHIFT]+[F3] → Numeric Keypad

[Settings]

When the EVENT TYPE is PITCH BEND

-8192 ~ +8191, KEYBOARD

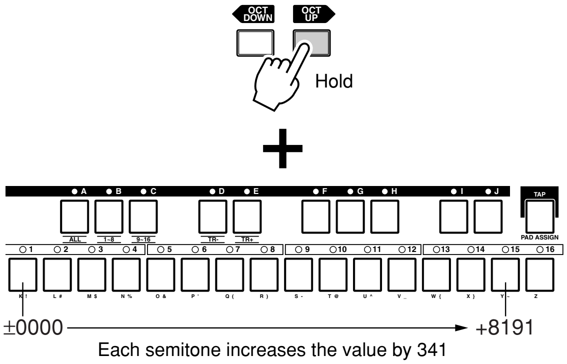
When the EVENT TYPE is CC

000 ~ 127, KEYBOARD

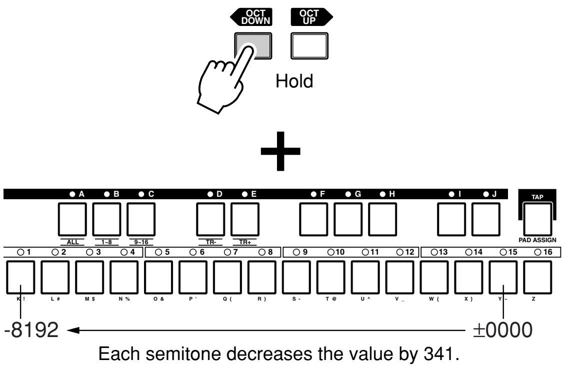
Sets the value of the data to be entered.
When KEYBOARD is selected the value can directly entered via the RS7000 keyboard.

[Procedure]
When the EVENT TYPE is PITCH BEND

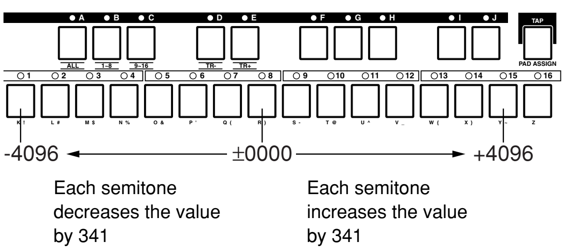
The pitch bend values from -8192 through +8191 are assigned to the keyboard.
Pressing the leftmost white key (E) while holding the [OCT UP] button enters ±0000, and each key to the right of this increases the value by 341 (semitone steps) until +8191 is reached at the high E key (the second from rightmost white key).



Operation when the [OCT DOWN] key is held is the opposite: the high E key enters ±0000, and each key to the left of this lowers the value by ±341 until -8192 is reached at the leftmost white key.

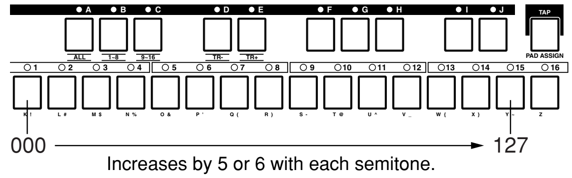


When the keyboard only is used, the SECTION H (middle C) white key corresponds to ±0000, while each semitone to the right of this key adds approximately 341, and each semitone to the left subtracts the same amount. The second white key from the right produces a value of +4096, and the leftmost white key produces a value of -4096.



When the EVENT TYPE is CC

The control change values from 000 through 127 are assigned to the keyboard.
The leftmost white key (E) enters 000, and each key to the right increases the value by 5 or 6 until 127 is reached at the high E key (the second from rightmost white key).



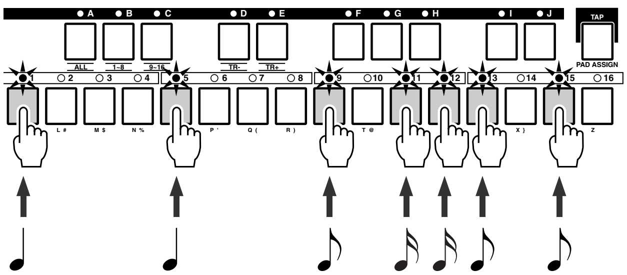
Grid Step Recording

Like step recording, grid step recording allows notes to be recorded to a user phrase one at a time. With grid step recording, however, the pitch of the notes to be entered is specified first, and the data-entry position is specified via the keyboard. This method is particularly useful for entering drum patterns or sequences which use several consecutive notes of the same pitch.

Record Procedure

1. Press [PATTERN] to enter the PATTERN Play mode.
2. Specify a style and section to select the pattern for which the phrase is to be recorded (Page 72).
3. Press [PATTERN] to switch to the PATTERN Patch mode.
4. Select a track and a user phrase (Page 75).
5. Press [REC] to engage the Rec Standby mode (PATTERN Patch).
6. Use [Knob 1](BANK) and [Knob 2](PGM) to select a voice for the phrase. If necessary use [Knob 3](TRANS ON/OFF) to turn transposition ON or OFF.
7. Press [PATTERN] to switch to the PATTERN Play Rec Standby mode.
8. Use [Knob 2] to select the GRID record type.
9. Press [PLAY] and the Grid Step record display will appear.
10. Set the pitch of the notes to be entered via [Knob 1](NOTE). If necessary also use [Knob 2](GATE TIME) to set the gate time and [Knob 3](VELOCITY) to set the note velocity.
11. Use the keyboard to specify the note-entry point on the grid. The grid divides a measure into 16th note divisions, and the 16 white keys on the keyboard correspond to each of these grid positions.
    The leftmost white key enters a note on the first beat of the measure, the 5th white key (B) enters a note right on the 2nd beat, and so on.
    A note is entered on the grid each time a white key is pressed and its indicator lights. Press the same white key a second time so that its indicator goes out to erase the note at that position.

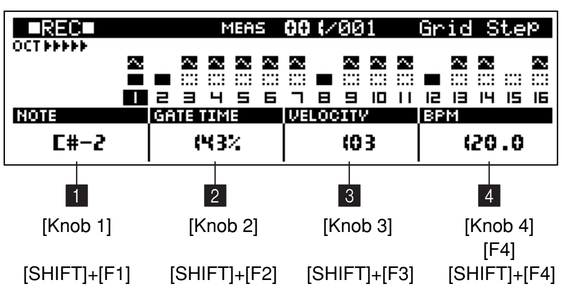
When the selected meter has more than 4 beats per measure (5/4, for example), notes fro the 5th beat onward can be entered after pressing the [OCT UP] button. Press [OCT DOWN] to go back to beats 1 through 4.
For example, this rhythmic pattern in 4/4 time can be entered as follows ( ).



When the phrase being recorded is more than 2 measures long, Use the [►►] button to move to the next measure.

12. If you press the [PLAY] button the [PLAY] indicator will flash and you will be able to hear how your grid-recorded phrase is shaping up. Press [STOP] to stop playback.
13. Stop recording and return to the PATTERN Play (or PATTERN Patch) mode by pressing the [STOP] button.

Display Parameters



1 NOTE...............[Knob 1], [SHIFT]+[F1] → Numeric Keypad

[Settings] C-2 ~ G8

Specifies the pitch of the notes to be entered.
In addition to using [Knob 1], the pitch can be specified by pressing a key on the keyboard while holding the [SHIFT] button.

2 GATE TIME.. [Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings] 001% ~ 999%

Sets the gate time as a percentage of the grid's 16th note steps.
Settings below 99% result in note lengths shorter than full 16th notes, producing a staccato effect.
Settings higher than 101% increase the note length so that the 16th notes will overlap subsequent notes.

3 VELOCITY.... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

Has the same effect as the step recording parameter. Refer to page 82 in the "Step Record" section for details.

4 BPM (Tempo)

..................[Knob 4], [F4], [SHIFT]+[F4] → Numeric Keypad

Has the same effect as the pattern play parameter. Refer to page 72 in the "Pattern Playback" section for details.

4. Adding Groove to a Pattern

The GROOVE function can be used to add feel and groove to patterns.
This is accomplished by varying note timing, gate time, and velocity on an easy-to-use grid. By using the GROOVE function you can vary the feel of the preset phrases as well as your own. Give dry-sounding patterns more drive, and in general make your grooves more musical.
Press the [GROOVE] button while in the PATTERN Play or Patch mode to access the Grid Groove display page.

Groove Features

- **Pitch, note timing, gate time, and velocity can be varied to change the groove of your patterns without actually changing the original data.**

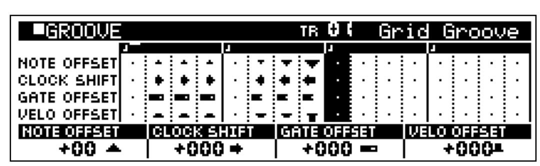
- **Parameter changes affect playback in real time, so you can tweak the groove of your patterns while monitoring the results to achieve precisely the feel you want.**
- **Add groove to the preset phrases.**
  Although the preset phrases cannot be directly altered, you can use Grid Groove to indirectly change the way they sound.
- **Groove settings can be applied to the pattern data when complete.**
  Groove settings can be applied to pattern data in two ways:
  - By using the PATTERN JOB "Normalize Effect" job (Page 150).
  - By using the real-time OVERDUB record mode (Page 80).

> NOTE
> The real-time OVERDUB record mode cannot be used if a preset phrase is assigned to the selected track. In this case first copy the preset phrase to a user phrase and assign that phrase to the track.

- **Different groove settings can be made for each track.**
  You can, for example, apply different groove settings to bass drum and snare tracks.
- **The groove settings for all 16 tracks are memorized with the style.**
  No extra save procedure is necessary. Your groove settings are saved with the style data and are automatically recalled whenever a style is selected.
  If MEMORY PROTECT is ON, however (Page 257), the groove settings will not be saved and will be erased when a different style is selected.

Grid Groove Procedure

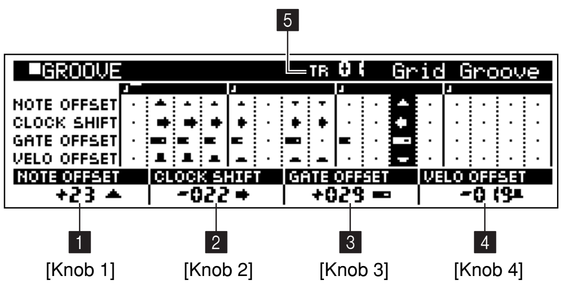
1. Press [GROOVE] while in the PATTERN Play or Patch mode to access the Grid Groove display page.
2. Press a key on the keyboard while holding the [TRACK SELECT] button to select the track to which groove is to be applied.
3. Press a white key on the keyboard to select the grid segment to be edited.
   The grid is divided into 16th note segments which are selected by pressing the corresponding white keys on the keyboard. The leftmost white key corresponds to the first beat of the measure, the 5th white key to the 2nd 1/4 note beat, and so on. Press the same key again to de-select the segment.
   When a key is pressed the corresponding grid segment is highlighted.
   More than one segment can be selected at a time for simultaneous groove editing. If several segments are selected you can select a single segment only by pressing the appropriate key while holding the [SHIFT] button.

> NOTE
> The selected segment is indicated both by the keyboard indicators and on the display. In the example below the 3rd 1/4 note beat is selected for editing.
>
> 
>

4. Press [PLAY] to begin playback and use [Knob 1] through [Knob 4] to adjust the groove parameters as required.
5. Press [EXIT] to return to the PATTERN Play or Patch mode.

> **NOTE**
> When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.

Display Parameters



1 NOTE OFFSET .... [Knob 1]

[Settings] -99 ~ +99

Shifts the notes on the selected grid segment(s) up or down in semitone increments.

2 CLOCK SHIFT .... [Knob 2]

[Settings] -120 ~ +120

Shifts the timing of notes on the selected grid segment(s) backward or forward in clock increments.

3 GATE OFFSET .... [Knob 3]

[Settings] -120 ~ +120

Increases or decreases the gate time of notes on the selected grid segment(s) in clock increments.

4 VELO OFFSET (Velocity Offset)............. [Knob 4]

[Settings] -127 ~ +127

Increases or decreases the velocity of notes on the selected grid segment(s).

5 TR (Track)

[Settings] TR01 ~ 16

Specifies the track to which the groove settings are to be applied.
See “Pattern Playback”, page 72, for the track selection procedure.

Recording the Groove Settings to a Phrase Using the Overdub Record Mode

If a user phrase is assigned to the track to which groove has been applied, the following procedure can be used to actually record the groove settings to the track.

1. Set up the GROOVE parameters as required.
2. Press [PATTERN] to go to the PATTERN Play page.
3. Press [REC] to engage the Rec Standby mode.
4. Use [Knob 2](REC TYPE) to select the OVERDUB record type.
5. Use [Knob 3](REC QUANTIZE) to set the REC QUANTIZE value to “OFF” (OFF).
6. Press [PLAY] to begin recording.
7. When the entire phrase has played through once, press the [STOP] button to stop recording.

The groove settings have now been recorded along with the phrase, and the groove settings for that track are initialized.

> **NOTE**
> - Please note that during this process any keys played on the keyboard, panel knob operations, or data received from an external MIDI controller will also be recorded.
> - If MEMORY PROTECT is ON, “Memory Protected” will appear on the display when you press the [REC] button and the Rec Standby mode will not be engaged. If this happens go to the UTILITY mode and turn MEMORY PROTECT OFF (Page 257) and then continue from step 2 of the above procedure.

5. Play Effects

Play effects can be used to temporarily alter parameters such as gate time and velocity, or to add effects such as harmony to enhance the richness and depth of the sound during pattern playback. Play effects are set and applied via this sub mode. Three display pages are provided: Harmonize, Note, and Timing.
Press [PLAY FX] while in the PATTERN Play or Patch mode to access the play effects.

Play Effect Features

- **Play effects allow you to temporarily alter note timing, gate time, and velocity without actually changing of overwriting the original pattern data. You can also add effects such as unison, octave, and harmonize for thicker textures.**

- **Parameter changes affect playback in real time, so you can tweak the groove of your patterns while monitoring the results to achieve precisely the feel you want.**
- **Add play affects to the preset phrases.**
  Although the preset phrases cannot be directly altered, you can use play effects to indirectly change the way they sound.
- **Play effect settings can be applied to the pattern data when complete.**
  Play effect settings can be applied to pattern data in two ways:
  - By using the PATTERN JOB "Normalize Effect" job (Page 150).
  - By using the real-time OVERDUB record mode (Page 80).

> **NOTE**
> The play effects settings cannot be recorded to preset phrases. To permanently apply the play effect changes to a preset phrase, first copy the phrase to a user phrase and assign the new user phrase to the track to which the play effects are to be applied, then use the play effects recording procedure described on this page.

- **Unison, octave, and harmonize effects use polyphony.**
  The octave and harmonize 1/2 effects use up one note each (2 notes when a 2-element voice is used). Unison uses up the number of notes set by the unison setting (or twice the number of notes when a 2-element voice is used).
  For example, if the unison effect is set to "8" the effect will use up 8 (or 16) simultaneous notes.
  Be sure that whatever effect you use, the maximum 62 note polyphony of the RS7000 is not exceeded. For more information on maximum polyphony refer to "Chapter 1: Basics", page 62.
- **Different play effect settings can be made for each track.**
- **The play effect settings for all 16 tracks are memorized with the style.**
  No extra save procedure is necessary. Your play effect settings are saved with the style data and are automatically recalled whenever a style is selected.
  If MEMORY PROTECT is ON, however (Page 257), the play effect settings will not be saved and will be erased when a different style is selected.

Play Effect Procedure

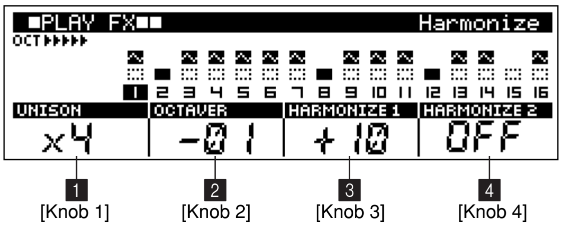
1. Press [PLAY FX] while in the PATTERN Play or Patch mode to access the Harmonize page.
2. Press a key on the keyboard while holding the [TRACK SELECT] button to select the track to which play effects are to be applied.
3. Use [Knob 1] ~ [Knob 4] to make the required settings.
4. Press [PLAY FX] to go to the Note page.
5. Use [Knob 1] ~ [Knob 3] to make the required settings.
6. Press [PLAY FX] to go to the Timing page.
7. Use [Knob 1] ~ [Knob 3] to make the required settings.
8. Use the [EXIT] to move back through the Note and Harmonize pages, and finally to return to the PATTERN Play (or Patch) mode.

> **NOTE**
> - When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
> - Using the three SEQUENCE PLAY FX knobs you can directly edit the corresponding parameters on the Note and Timing pages (except NOTE OFFSET).

Display Parameters

[1] Harmonize Page

[PATTERN] → [PLAY FX]



1 UNISON ....[Knob 1]

[Settings] OFF, ×2, ×3, ×4, ×5, ×6, ×7, ×8

Plays a unison phrase which has the same notes and timing as the data recorded in the target phrase.
The unison phrase will be slightly out-of-phase in relation to the original phrase, and thus produce a "thickening" flanging type effect.

2 OCTAVER ....[Knob 2]

[Settings] -10 ~ -1, OFF, +1 ~ +10

Creates and plays a phrase the specified number of octaves above or below the original phrase data.

3 HARMONIZE 1 ....[Knob 3]

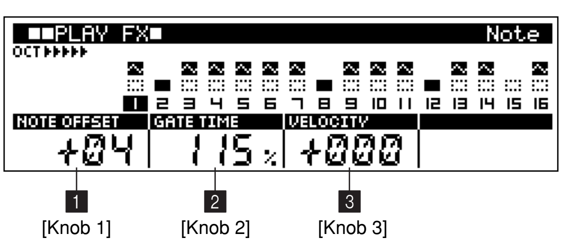
4 HARMONIZE 2 ....[Knob 4]

[Settings] -99 ~ -1, OFF, +1 ~ +99

Adds a harmonized phrase to the recorded phrase data to create a rich, harmony sound. Two harmonize effects can be used simultaneously to create an even thicker sound.

[2] Note Page

[PATTERN] → [PLAY FX] × 2



1 NOTE OFFSET ....[Knob 1]

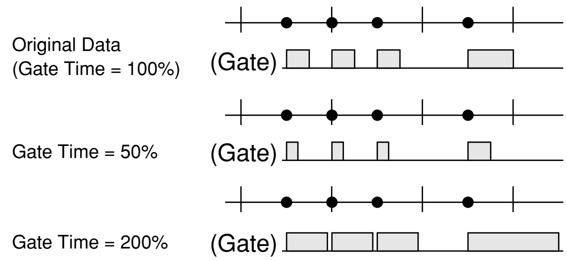
[Settings] -99 ~ +99

Shifts the notes in the phrase or down in semitone increments.

2 GATE TIME ....[Knob 2]

[Settings] 000% ~ 200%

Alters the gate time of notes in the phrase by the specified percentage.

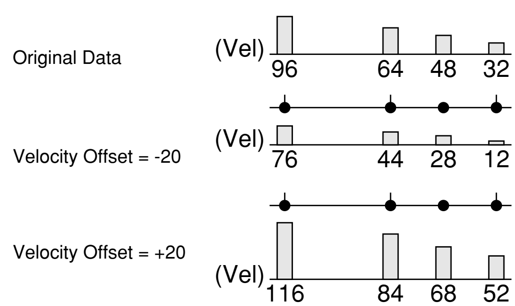


> **NOTE**
> If the resultant gate time is less than zero, it will be set to 1.

3 VELOCITY (Velocity Offset) ....[Knob 3]

[Settings] -127 ~ +127

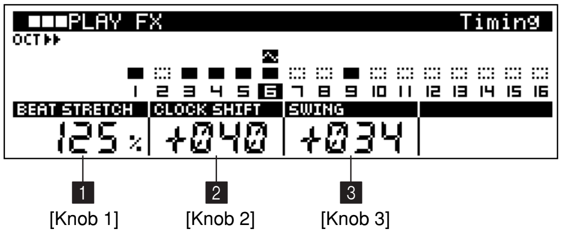
Increases or decreases the velocity of notes in the phrase by the specified offset value.



> **NOTE**
> If the resultant velocity value is less than zero it will be set to 1, and if the resultant velocity is greater than 128 it will be set to 127.

[3] Timing Page

[PATTERN] → [PLAY FX] × 3



1 BEAT STRETCH..[Knob 1]

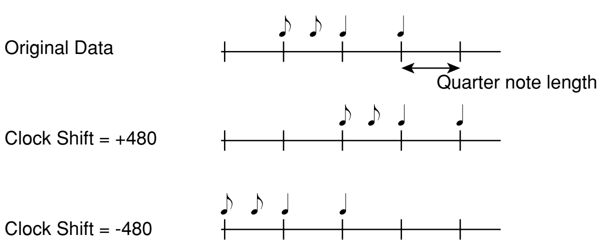
[Settings] 25%, 33%, 50%, 66%, 75%, 100%, 125%, 150%, 200%, 300%, 400%

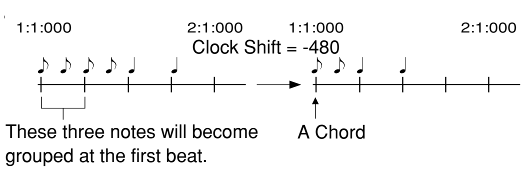
Shortens or lengthens the phrase by the specified percentage. The amount by which the phrase is shortened or lengthened is determined as a percentage of the notes on which the meter of the phrase is based. Simply, a setting of 50% shortens the phrase to half its original length, while a setting of 200% lengthens the phrase to twice its original length. A setting of 100% produces no change.

2 CLOCK SHIFT..[Knob 2]

[Settings] -480 ~ +480

Shifts the timing on notes in the phrase forward or backward in clock increments.



> **NOTE**
>
> Notes cannot be shifted to a position that is before the beginning of the phrase.
> If a clock shift setting results in notes being positioned before the beginning of the phrase, those notes will all be aligned with the beginning of the phrase.
> In the example below, if the clock shift parameters is set to -480 (one 1/4 note) the first three 8th notes will all become grouped at the beginning of the pattern.
>
> 
>

3 SWING .... [Knob 3]

[Settings] -120 ~ +120

Delays the timing of the back (even-numbered) 8th notes in the phrase in clock increments.

Recording the Play Effect Settings to a Phrase Using the Overdub Record Mode

If a user phrase is assigned to the track to which play effects have been applied, the following procedure can be used to actual record the play effect settings to the track.

1. Set up the PLAY FX parameters as required.
2. Press [PATTERN] to go to the PATTERN Play page.
3. Press [REC] to engage the Rec Standby mode.
4. Use [Knob 2](REC TYPE) to select the OVERDUB record type.
5. Press [PLAY] to begin recording.
6. When the entire phrase has played through once, press the [STOP] button to stop recording.

The play effect settings have now been recorded along with the phrase, and the play effect settings for that track are initialized.

> **NOTE**
>
> - Please note that during process any keys played on the keyboard, panel knob operations, or data received from an external MIDI controller will also be recorded.
> - If MEMORY PROTECT is ON, "Memory Protected" will appear on the display when you press the [REC] button and the Rec Standby mode will not be engaged.
> If this happens go to the UTILITY mode and turn MEMORY PROTECT OFF (Page 257) and then continue from step 2 of the above procedure.

6. MIDI Delay

This sub mode can be used to apply a special MIDI delay effect to a pattern.
MIDI delay works by creating a copy of the original data which plays back several times slightly after the original data, thus simulating the sound of a normal delay effect. MIDI delay has some special features which aren't available with standard delay effects, however.
Two display pages are provided: Delay and Feedback.
From the PATTERN Play or Patch mode press the [MIDI DELAY] button to access the MIDI delay pages.

MIDI Delay Features

- **Unlike conventional delay effects, MIDI delay works by adding MIDI data which means that the pitch, velocity, and gate time of the delay sound can be freely controlled, and special feedback clock variations can be applied.**
  For example. The pitch of the delay sound can be raised or lowered in semitone or whole-tone increments, or the volume of the delay can be gradually increased or decreased. Feedback clock control allows, for example, the delay time to be gradually shortened or lengthened.
- **Since MIDI delay uses the MIDI clock as the basis for all delay times it is easy to create precise note-length delays.**
  In conventional delay systems the delay time is specified in milliseconds (thousandths of a second) so it is necessary to calculate the relationship between milliseconds and note length when you want to create note-length delays. Further, if the tempo changes during playback it becomes necessary to do extra work to make the delay time follow the tempo changes.
  With MIDI delay, however, the delay time can be set in clock increments so the delays will always be locked to the playback tempo.
- **MIDI delay uses polyphony.**
  Since MIDI delay uses the tone generator stage to produce the delay sound, it uses 1 note (2 if a 2-element voice is used) of the RS7000's maximum polyphony. Be sure that whatever effect you use, the maximum 62 note polyphony of the RS7000 is not exceeded. For more information on maximum polyphone refer to "Chapter 1: Basics", page 62.
- **Different MIDI delay settings can be made for each track.**
- **The MIDI delay settings for all 16 tracks are memorized with the style.**
  No extra save procedure is necessary. Your MIDI delay settings are saved with the style data and are automatically recalled whenever a style is selected.
  If MEMORY PROTECT is ON, however (Page 257), the MIDI delay settings will not be saved and will be erased when a different style is selected.
- **MIDI delay settings can be applied to the pattern data when complete.**
  There are 2 ways to do this:
  - By using the PATTERN JOB "Normalize Effect" job (Page 150).
  - By using the real-time OVERDUB record mode (Page 80).

> **NOTE**
> If a preset phrase is assigned to the selected track, the real-time OVERDUB record mode cannot be used. In this use first copy the preset phrase to a user phrase and assign that phrase to the track.

MIDI Delay Setup Procedure

1. Press [MIDI DELAY] while in the PATTERN Play or Patch mode to access the first MIDI delay display page (Delay).
2. Press a key on the keyboard while holding the [TRACK SELECT] button to select the track to which MIDI delay is to be applied.
3. Use [Knob 1] ~ [Knob 3] to make the required settings.
4. Press [MIDI DELAY] to go to the Feedback page.
5. Use [Knob 1] ~ [Knob 4] to make the required settings.

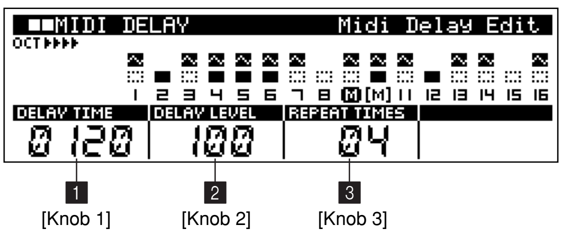
6. Use the [EXIT] to move back to the Delay page, and then to return to the PATTERN Play (or Patch) mode.

> **NOTE**
> - When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
> - The SEQUENCE PLAY FX knob can be used to directly edit the Delay page DELAY LEVEL parameter.

Display Parameters

[1] Delay Page

[PATTERN] → [MIDI DELAY]



1 DELAY TIME ....[Knob 1]

[Settings] 0030 ~ 1920 (clocks)

Sets the delay time. The delay time is the amount of time between the playback of the original notes and the delay notes, specified in clock increments (one 1/4 note = 480 clocks).

2 DELAY LEVEL ....[Knob 2]

[Settings] 000 ~ 127 (%)

Sets the velocity of the delay sound in percent.

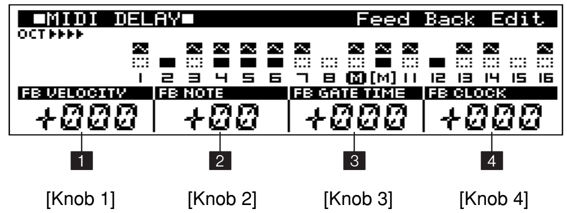
3 REPEAT TIMES ....[Knob 3]

[Settings] 00 ~ 64

Specifies the number of delay repeats.

[2] Feedback Page

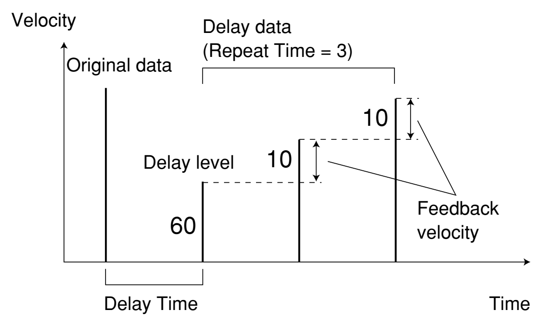
[PATTERN] → [MIDI DELAY] × 2



1 FB VELOCITY (Feedback Velocity) ....[Knob 1]

[Settings] -127 ~ +127

When MIDI delay is set up to produce multiple repeats, gradual changes in the level of the repeats are produced by increasing or decreasing the velocity values.
For example, if the velocity of the original data is 100 and the FB VELOCITY value is set to +10, if the velocity of the first repeat is 60, the second repeat will be 70, the third 80, and so on.



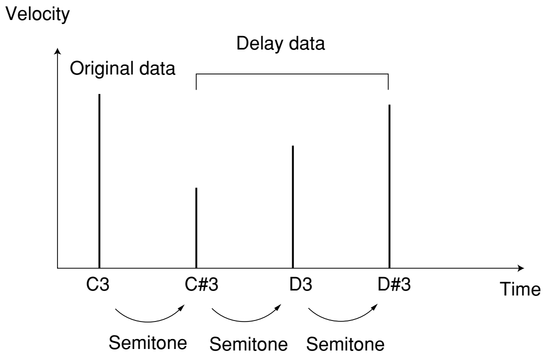
2 FB NOTE (Feedback Note) .... [Knob 2]

[Settings] -24 ~ +24, RDN

When MIDI delay is set up to produce multiple repeats, changes in the pitch of the repeats can be produced in semitone or whole-tone increments.
For example, if the pitch of an original note is C3 and the FB NOTE value is set to +1, the pitch of the first repeat will be C#3, the second repeat will be D3, the third D#3, and so on.

The Pattern Mode 2

When RND (RANDOM) is selected the pitch of the delayed notes will change at random.



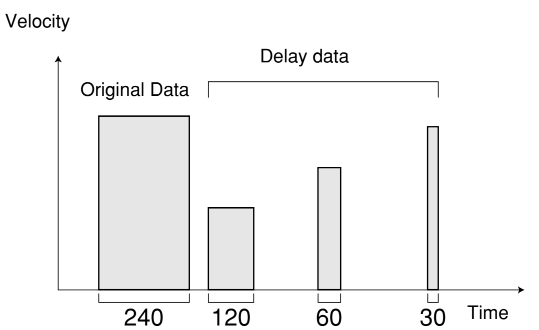
3 FB GATE TIME (Feedback Time)...............[Knob 3], [Settings] -100 ~ +100 (%)

When MIDI delay is set up to produce multiple repeats, this parameter can be used to apply gradual changes in the gate time of the repeats. The gate times of the repeats are affected as follows:

The gate time of the 1st repeat =
the original gate time × the TIME parameter setting.

The gate time of the 2nd and subsequent repeats =
the gate time of the preceding repeat × the TIME setting.

For example, if the gate time of an original note is 240 clocks and the TIME parameters is set to –50%, the gate time of the 1st repeat will be 120 clocks, the second repeat will be 60 clocks, the third 30 clocks, and so on.

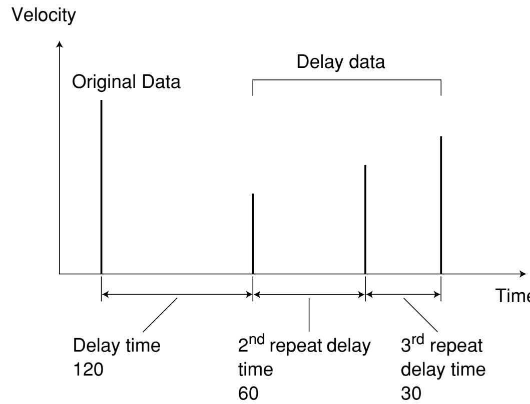


4 FB CLOCK (Feedback Clock)..................[Knob 4] [Settings] -100 ~ +100 (%)

When MIDI delay is set up to produce multiple repeats, this parameter can be used to apply gradual changes in the delay time of the repeats. The delay times of the repeats are affected as follows:

The delay time of the 2nd and subsequent repeats =
the delay time of the preceding repeat × the FB CLOCK setting.

For example, if the delay time of an original note is 240 clocks and the FB CLOCK parameters is set to –50%, the delay time of the 1st repeat will be 120 clocks, the second repeat will be 60 clocks, the third 30 clocks, and so on.



Recording the MIDI Delay Settings to a Phrase Using the Overdub Record Mode

If a user phrase is assigned to the track to which MIDI delay been applied, the following procedure can be used to actual record the MIDI delay settings to the track.

1. Set up the MIDI DELAY parameters as required.
2. Press [PATTERN] to go to the PATTERN Play page.
3. Press [REC] to engage the Rec Standby mode.
4. Use [Knob 2] (REC TYPE) to select the OVERDUB record type.
5. Press [PLAY] to begin recording.
6. When the entire phrase has played through once, press the [STOP] button to stop recording.

The MIDI delay settings have now been recorded along with the phrase, and the MIDI delay settings for that track are initialized.

NOTE

- Please note that during process any keys played on the keyboard, panel knob operations, or data received from an external MIDI controller will also be recorded.
- If MEMORY PROTECT is ON, “Memory Protected” will appear on the display when you press the [REC] button and the Rec Standby mode will not be engaged.
  If this happens go to the UTILITY mode and turn MEMORY PROTECT OFF (Page 257) and then continue from step 2 of the above procedure.

7. Adjusting Level and Effects for Each Track (Mixer)

This sub-mode is used to adjust pattern-playback volume levels, effect levels, and other parameters individually for each track.
4 pages are available: Voice Select, Volume/Pan/Out, Equalizer, and Effect Send. The equalizer parameters are available on 2 sub pages accessible via the [F1] and [F4] buttons.
Press the [MIXER] button from the PATTERN Play or Patch mode to go to the MIXER Voice Select page.

Mixer Features

- **This mode functions as a "mixer" which allows adjustment of individual track levels, pan, effect send and other parameters during pattern playback.**
- **Regardless of the voices specified for the phrases used, voices can be assigned for each style.**
- **Mixer parameters are also saved when a pattern is saved to memory card or disk as an SMF (Standard MIDI File) file.**
- **The mixer settings are memorized with the style.**
  No extra save procedure is necessary. Your mix and voice settings are saved with the style data and are automatically recalled whenever a style is selected. If MEMORY PROTECT is ON, however (Page 261), the mix and voice settings will not be saved and will be erased when a different style is selected.
- **Absolute and relative parameters.**
  Absolute parameters are parameters which directly control the corresponding function.
  Relative parameters, on the other hand, function more like offset values which shift some other value by a specified amount.
  In the mixer sub mode, only the RANDOM PAN DEPTH parameter is relative.

Mixer Setup Procedure

1. Press [MIXER] while in the PATTERN Play or Patch mode to access the Voice Select display page.
2. Select the track to be adjusted (Page 69).
3. Use [Knob 1] ~ [Knob 4] to make the required settings.
4. Press [MIXER] to go to the Volume/Pan/Out page.
5. Use [Knob 1] ~ [Knob 4] to make the required settings.
6. Press [MIXER] to go to the EQ 1/2 page.
7. Use [Knob 1] ~ [Knob 4] to make the required settings.
8. Press [MIXER] to go to the Effect Send page.
9. Use [Knob 1] ~ [Knob 4] to make the required settings.
10. Use the [EXIT] to move back through the EQ 1/2, Volume/Pad/Out and Voice Select pages, and finally to return to the PATTERN Play (or Patch) mode.

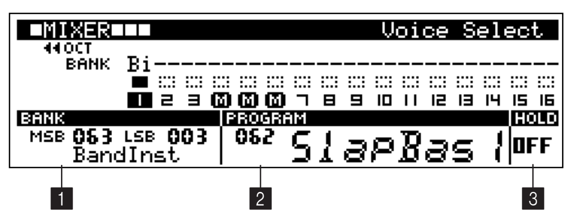
NOTE

- When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
- Using the four panel EFFECT SEND/VOLUME knobs you can directly edit the corresponding mixer parameters without having to access the mixer displays.

Display Parameters

[1] Voice Select Page

[PATTERN] → [MIXER]



[Knob 1] [Knob 3] [Knob 4]

1 BANK .... **[Knob 1]**

2 **PROGRAM (Program Number)**....................**[Knob 3]**

[Settings]

Voice Bank (Bank Select MSB, LSB)

*** *** **(Phrase), 000 000 (GM),**
063 000 (SyBa&Ld1), 063 001 (SyPd&FX1),
063 002 (SyMater1), 063 003 (BandInst),
063 004 (Cls&Wind), 063 005 (Eth&Perc),
063 006 (SFX1), 063 007 (SyBa&Ld2),
063 008 (SyPd&FX2), 063 009 (SFX2),
064 000 (SmpLocal), 064 001 (SmpCmn),
126 000 (DrumKit), 127 000 (GM Drum)

Program Number 001 ~ 128
(depends on the voice bank)

Assigns a voice to each track for pattern playback.
Voice banks organize voices in voice-type categories, and are selected using MIDI bank select MSB and LSB data.
The program number parameter selects the individual voices in each bank.
When the BANK MSB and LSB are set to "*** *** (Phrase)", the voice specified for the phrase assigned to that track is used. (Page 79)

> **NOTE**
> See "Chapter 1: Basics", page 61 for details about voice banks.

3 **HOLD (Voice Parameter Hold)**.....................**[Knob 4]**

[Settings] OFF, ON

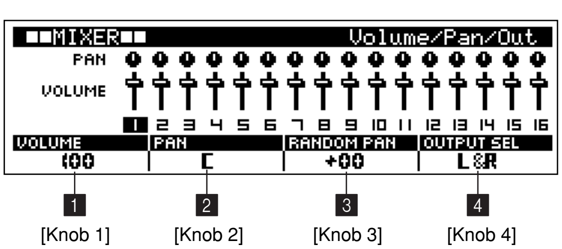
OFF...................**edited absolute voice parameters will be reset.**
ON.....................**edited absolute voice parameters will be retained.**

Determines whether edited absolute voice parameters will be retained when a different voice is selected.
When "OFF" the absolute voice edit parameters are initialized each time a voice is selected. When "ON" the absolute voice edit parameters are retained.

> **NOTE**
> The LFO User Wave parameters, Coarse Tune, Detune, Pitch Bend Range, and Pitch Bend are all absolute parameters, but their value will be held whether ON or OFF.

[2] Volume/Pan/Out Page

[PATTERN] → [MIXER] × 2



1 **VOLUME** .... **[Knob 1]**

[Settings] 000 ~ 127

Sets the volume level of the selected track.

2 **PAN** .... **[Knob 2]**

[Settings] L63 ~ L01, C, R01 ~ R63

Sets the stereo pan position of the selected track.

3 **RANDOM PAN** .... **[Knob 3]**

[Settings] -64 ~ 0 ~ 63

Sets the depth of random pan for the selected track.
When set to "0" no panning occurs.
Other values produce a random pan position each time a note is played.

4 **OUTPUT SEL (Output Select)**...................... **[Knob 4]**

[Settings] L&R, AS1, AS2, AS3, AS4, AS5, AS6, AS1&2, AS3&4, AS5&6

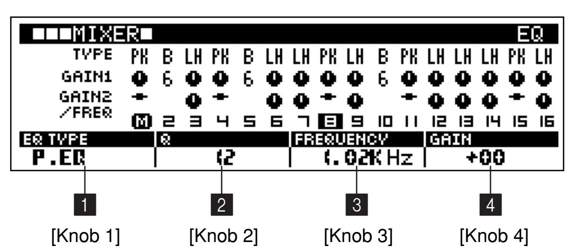
L&R...................**Output is sent to the RS7000 OUTPUT jacks.**
AS1, AS2, AS3, AS4, AS5, AS6, AS1&2, AS3&4, AS5&6 ....**These settings send output to the corresponding individual outputs on the optional AIEB2 I/O Expansion Board** **(Page 20).**

Specifies the output to which the sound from each track will be sent.
The assignable outputs on the optional AIEB2 I/O Expansion Board can be used to separately output specified patterns or samples for processing via separate external audio devices. AS1 through AS6 are mono output settings, while AS1&2, AS3&4, and AS5&6 output a stereo program to the specified output pair.

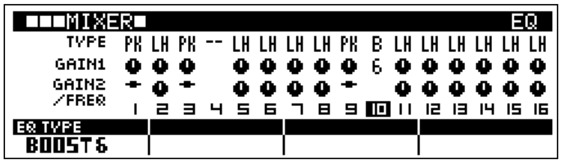
[3] Equalizer Page

[PATTERN] → [MIXER] × 3

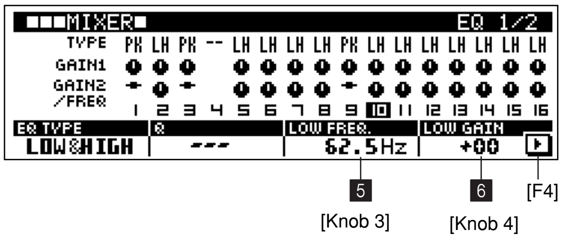
EQ TYPE = PEQ

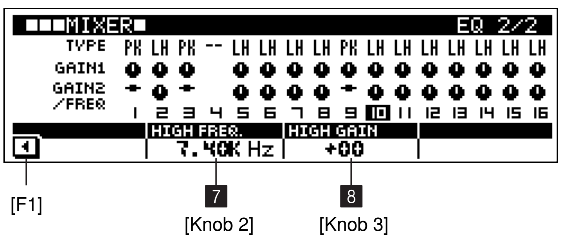


EQ TYPE = BOOST

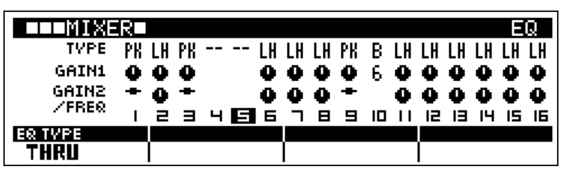


EQ TYPE = LOW&HIGH





EQ TYPE = THRU



1 EQ TYPE ....[Knob 1]

[Settings] Low&High, PEQ, BOOST6, BOOST12, BOOST18, THRU

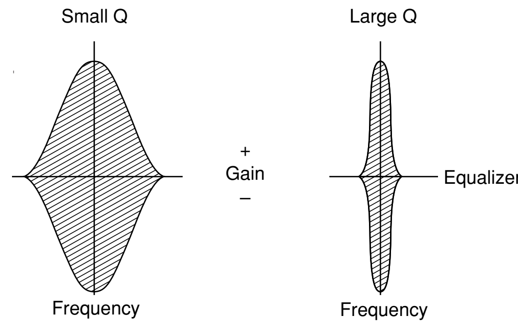
Low&High ....**Independent control of Low and High EQ bands.**
PEQ..................**Parametric Equalizer — provides control of center frequency and Q (bandwidth) as well as boost/cut.**
BOOST6 ....**Provides a 6-dB level boost.**
BOOST12 ....**Provides a 12-dB level boost.**
BOOST18 ....**Provides a 18-dB level boost.**
THRU ....**The equalizer is bypassed.**

Specifies the type of equalization to be applied to each track.

2 Q (Bandwidth).................... [Knob 2]

[Settings] 0 ~ 31

Specifies the bandwidth, or range of frequencies, to be affected by boost or cut when the PEQ type is selected.
The specified frequency range is centered at the specified EQ frequency (below).



3 FREQUENCY .... [Knob 3]

[Settings] 139.7 Hz ~ 12.9 kHz

Sets the center (or cutoff) frequency of the frequency band to be equalized.

4 GAIN (Output Select).................... [Knob 4]

[Settings] -32 ~ +32

Specifies the amount of boost or cut to be applied to the EQ frequency band.

5 LOW FREQ. (Low Frequency).................... [Knob 3]

[Settings] 50.1 Hz ~ 2.00 kHz

Sets the cutoff frequency for the EQ band adjusted by the LOW GAIN parameter, below.

6 LOW GAIN .... [Knob 4]

[Settings] -32 ~ +32

Boosts or cuts the low frequency band, below the cutoff frequency set by the LOW FREQ parameter, above.

7 HIGH FREQ. (High Frequency).................... [Knob 2]

[Settings] 503.8 Hz ~ 10.1 kHz

Sets the cutoff frequency for the EQ band adjusted by the HIGH GAIN parameter, below.

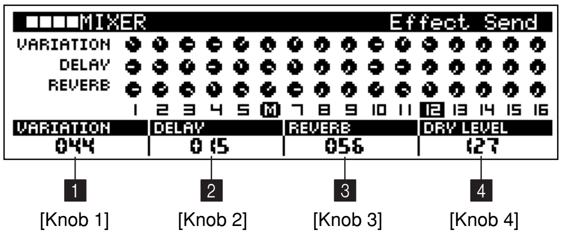
8 HIGH GAIN.................... [Knob 3]

[Settings] -32 ~ +32

Boosts or cuts the high frequency band, above the cutoff frequency set by the HIGH FREQ parameter, above.

[4] Effect Send Page

[PATTERN] → [MIXER] × 4



1 VARIATION .... [Knob 1]

[Settings] 000 ~ 127

Sets the variation effect send level from the selected track, and thus the depth of the variation effect for that track.

2 DELAY .... [Knob 2]

[Settings] 000 ~ 127

Sets the delay effect send level from the selected track, and thus the depth of the delay effect for that track.

3 REVERB.. [Knob 3]

[Settings] 000 ~ 127

Sets the reverb effect send level from the selected track, and thus the depth of the reverb effect for that track.

4 DRY LEVEL .... [Knob 4]

[Settings] 000 ~ 127

Specifies the “dry line” send level for each track.
The “dry line” is a direct connection to the outputs which does not go through the system effects. In other words, an effect bypass circuit. It is a stereo line in order to maintain the stereo pan position of each track.
If the dry line level is reduced the depth of the system effects is increased, but with some effects the sound may appear at stereo center.

8. Changing the Sound of Voices (Voice Edit)

This sub mode allows voices to be edited for each pattern track. You can modify brightness, attack, and other parameters to make the sound your own. There are 5 main display pages: LFO, Portamento, Pitch, EG (Envelope Generator), and Filter. The LFO and EG pages each have 3 sub pages accessible via the [F1] and [F4] buttons.
Press the [VOICE EDIT] button from the PATTERN Play or Patch mode to go to the VOICE EDIT LFO page.

Voice Edit Features

- **Versatile relative editing of voice parameters.**
- **EG, LFO, filter and other synthesizer-like parameters facilitate aggressive voice editing.**
- **Edited voice settings are memorized with each style.**
  No extra save procedure is necessary. Your edited voice settings are saved with the style data and are automatically recalled whenever a style is selected.
  If MEMORY PROTECT is ON, however (Page 257), the voice edit settings will not be saved and will be erased when a different style is selected.
- **Absolute and relative parameters.**
  Absolute parameters are parameters that directly control the corresponding function (pitch bend range, pitch bend, portamento ON/OFF, portamento time, pitch modulation depth, filter modulation depth, amplitude modulation depth).
  Relative parameters, on the other hand, function more like offset values which shift some other value by a specified amount. All voice edit parameters other than those listed above are relative.
  In the sections that follow the absolute or relative status of each parameter is listed beside the parameter name.
- **Voice edit parameters are not saved when a pattern is saved to memory card or disk as an SMF (Standard MIDI File) file.**

Voice Edit Procedure

1. Press [VOICE EDIT] while in the PATTERN Play or Patch mode to access the LFO display page.
2. Select the track to be adjusted (Page 67).
3. Use [Knob 1] ~ [Knob 4] to make the required settings.
4. Press [VOICE EDIT] to go to the Portamento page.
5. Use [Knob 1] ~ [Knob 3] to make the required settings.
6. Press [VOICE EDIT] to go to the Pitch page.
7. Use [Knob 1] ~ [Knob 4] to make the required settings.
8. Press [VOICE EDIT] to go to the EG page.
9. Use [Knob 1] ~ [Knob 4] to make the required settings.
10. Press [VOICE EDIT] to go to the Filter page.
11. Use [Knob 1] ~ [Knob 4] to make the required settings.
12. Use the [EXIT] to move back through the EG, Pitch, Portamento and LFO pages, and finally to return to the PATTERN Play (or Patch) mode.

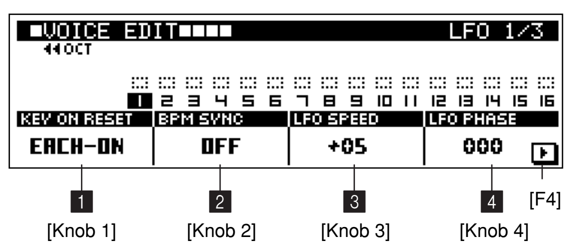
NOTE

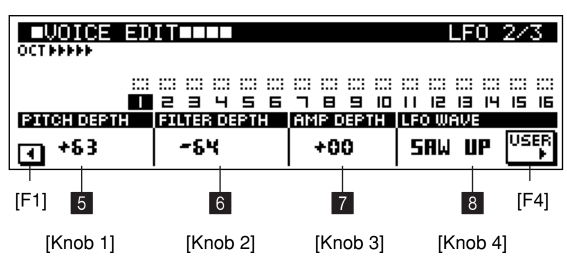
- When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
- Using the panel LFO, PITCH, EG and FILTER knobs and buttons you can directly edit the corresponding voice parameters without having to access the mixer displays.

Display Parameters

[1] LFO Page

[PATTERN] → [VOICE EDIT]





1 KEY ON RESET .... [Knob 1]

Absolute

[Settings] OFF, EACH-ON, 1st-ON

OFF (Reset Off) .... No phase reset.
EACH-ON .... Phase reset for each note played.
1st-ON .... Phase reset on the 1st note of legato phrases (when subsequent notes are played while the first note is still held).

Specifies the LFO phase reset mode.

2 BPM SYNC (BPM Synchronization) .... [Knob 2]

Absolute

[Settings] OFF, ON

Determines whether the LFO speed is to be synchronized to the playback tempo (BPM SYNC ON) or not.

3 LFO SPEED .... [Knob 3]

[Settings]

When BPM SYNC = OFF: -64 ~ +63 (Relative)
When BPM SYNC = ON: 16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2nd/3, 4th., 2nd, whole/3, 2nd., 4th × 4, 4th × 5, 4th × 6, 4th × 7, 4th × 8 (Absolute)

16th .... 16th note
8th/3 .... 8th note triplet
16th. .... dotted 16th note.
8th .... 8th note
4th/3 .... 1/4 note triplet
8th. .... dotted 8th note.
4th .... 1/4 note
2nd/3 .... 1/2 note triplet
4th. .... dotted 1/4 note.
2nd .... 1/2 note
whole/3 .... whole note triplet
2nd. .... dotted 1/2 note.
4th × 4 ~ 4th × 8 .... one LFO cycle per 4 = 8 1/4 notes

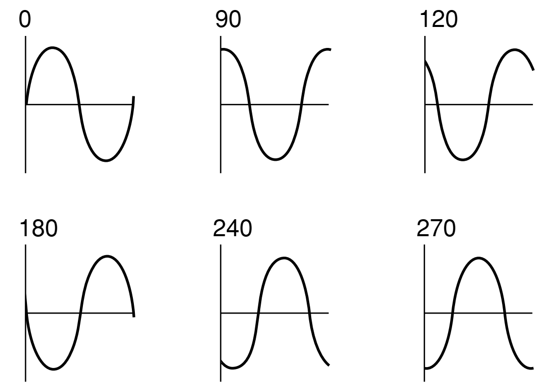
Specifies the LFO speed for vibrato, wow, tremolo, and other LFO-based effects.
When BPM SYNC is OFF the LFO speed is specified as a number.
When BPM SYNC is ON the LFO speed is specified as the type or number of beats per cycle.

4 LFO PHASE .... [Knob 4]

Absolute

[Settings] 0, 90, 120, 180, 240, 270

Specifies the phase from which the LFO will begin oscillation when it is reset.



5 PITCH DEPTH .... [Knob 1]

Relative

[Settings] -64 ~ +63

Sets the depth of pitch modulation (vibrato effect).

6 FILTER DEPTH .... [Knob 2]

Relative

[Settings] -64 ~ +63

Sets the depth of filter modulation (wow effect).

7 AMP DEPTH .... [Knob 3]

Relative

[Settings] -64 ~ +63

Sets the depth of amplitude modulation (tremolo effect).

8 LFO WAVE .... [Knob 4]

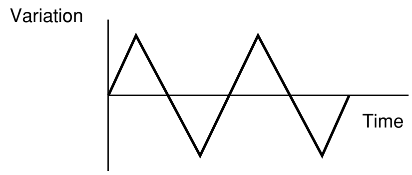
Absolute

[Settings] TRI, SAW UP, SAW DOWN, SQU, S/H, PGM, USER

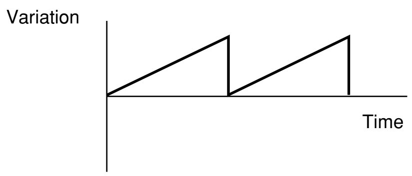
TRI .... Triangular wave
SAW UP .... Rising sawtooth
SAW DOWN ..... Falling sawtooth
SQU .... Square wave
S/H .... Sample & hold
PGM .... Programmed wave (can only be selected for preset voices which use an original waveform)
USER .... User wave

Specifies the LFO waveform. A total of 7 waveforms are provided.
Press [F4] to go to the USER wave setup page.

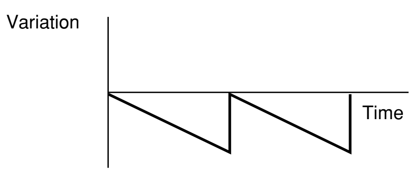
TRI (Triangular wave)



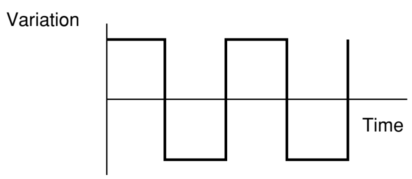
SAW UP (Rising sawtooth)



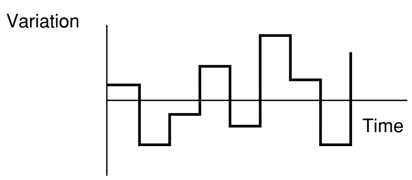
SAW DOWN (Falling sawtooth)



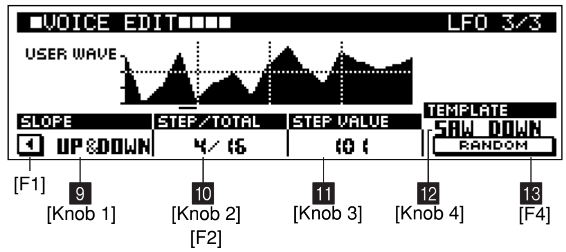
SQU (Square wave)



S/H (Sample & hold) .... Random Variation



■ User Wave Page



9 SLOPE .... [Knob 1]

Absolute

[Settings] OFF, UP, DOWN, UP&DOWN

OFF ....**The waveform steps are not connected by slopes. The wave will be similar to a rectangular or sample-&-hold wave.**
UP ....**Slopes will be used to connect only steps which increase in amplitude. This produces composite rising sawtooth type waveforms.**
DOWN...............**Slopes will be used to connect only steps which decrease in amplitude. This produces composite falling sawtooth type waveforms.**
UP&DOWN ....**Slopes connect all steps. The result is a composite triangular waveform.**

Determines whether or not the steps of a user waveform will be connected by slopes.

10 STEP/TOTAL .... [Knob 2], [F2] → [Knob 2]

Absolute

[Settings]

STEP.................**1 ~ TOTAL STEP**
TOTAL **2, 3, 4, 5, 6, 8, 12, 16**

STEP selects the step in the user waveform for which the amplitude will be specified via the STEP VALUE parameter, below.
TOTAL specifies the total number of steps per one cycle of the user waveform. More steps allow more complex waveforms.
Press [F2] to move the cursor to the TOTAL parameter and set the total number of steps using [Knob 2].

11 STEP VALUE ....[Knob 3]

Absolute

[Settings] 0 ~ 127

Sets the amplitude of the currently selected step in the user waveform. Select the steps via the STEP parameter, above, and use the STEP VALUE to alter the level of each to create the waveform.

12 TEMPLATE ....[Knob 4]

Absolute

[Settings] ALL 0, ALL 64, ALL 127, SAW UP, SAW DOWN, EVEN STEPS, ODD STEPS

- **ALL 0** .... **Sets the STEP VALUE of all steps to 0.**
- **ALL 64** .... **Sets the STEP VALUE of all steps to 64.**
- **ALL 127** .... **Sets the STEP VALUE of all steps to 127.**
- **SAW UP** .... **Produces a composite rising saw-tooth waveform.**
- **SAW DOWN** .... **Produces a composite falling saw-tooth waveform.**
- **EVEN STEPS** .... **The STEP VALUEs of all even steps are set to 127 while the odd steps are set to 0.**
- **ODD STEPS** .... **The STEP VALUEs of all odd steps are set to 127 while the even steps are set to 0.**

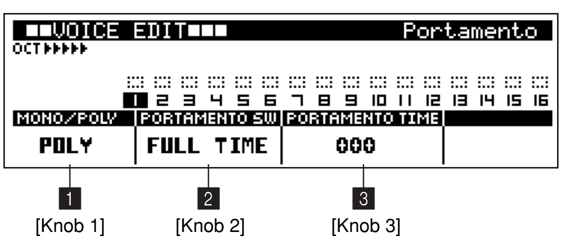
Provides a selection of 7 different "templates" on which user waveforms can be based.

13 RANDOM ....[F4]

The SLOPE and STEP VALUEs for the user waveform are selected randomly each time the [F4] button is pressed.

[2] Portamento Page

[PATTERN] → [VOICE EDIT] × 2



1 MONO/POLY ....[Knob 1]

Absolute

[Settings] MONO, POLY

Selects the MONO (only one note can be played at a time) or POLY (multiple notes can be played at a time) mode.

2 PORTAMENTO SW (Portamento Switch) .... [Knob 2]

Absolute

[Settings] OFF, FINGERED, FULL TIME

- **OFF** .... **Portamento is OFF**
- **FINGERED** .... **Portamento is only applied to legato notes (i.e. the first note is still held when the second note is played)**
- **FULL TIME** .... **Portamento is applied to all notes**

Selects the portamento type.
Portemento is a smooth slide between successive notes of different pitch.

3 PORTAMENTO TIME .... [Knob 3]

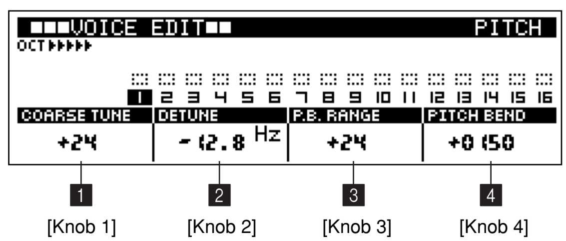
Absolute

[Settings] 000 ~ 127

Determines the length of the portamento slide between successive notes. The smaller the value the faster the portamento. At a settings of 000 there is no noticeable portamento effect.

[3] Pitch Page

[PATTERN] → [VOICE EDIT] × 3



1 COARSE TUNE .... [Knob 1]

Absolute

[Settings] -24 ~ +24 (semitone increments)

Adjusts the pitch in semitone increments.

2 DETUNE .... [Knob 2]

Absolute

[Settings] -12.8 ~ +12.7 (Hz)

Allows fine tuning adjustment (detuning) in 0.1 Hz increments.

3 P.B. RANGE (Pitch Bend Range) .... [Knob 3]

Absolute

[Settings] -24 ~ +24

Specifies the maximum pitch bend range in semitone increments. (12 semitones = 1 octave)

4 PITCH BEND ....[Knob 4]

Absolute

[Settings] -8192 ~ +8191

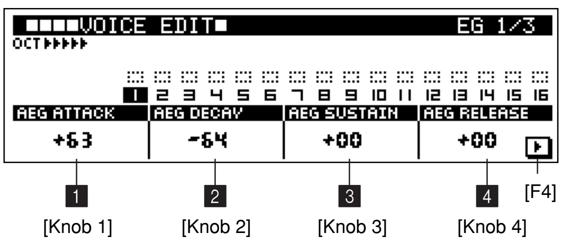
Sets the amount of pitch bend.

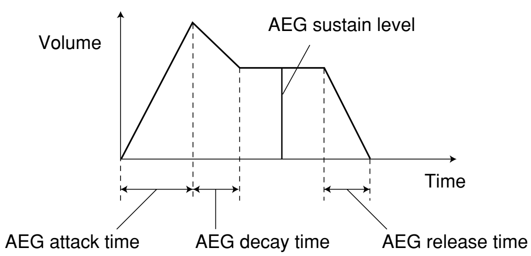
[4] EG Page

[PATTERN] → [VOICE EDIT] × 4

3 EG pages are available — AEG, FEG, and PEG — and these can be accessed by using the [F1] and [F4] buttons.
The pages will be described separately, below.

■ AEG Page





1 AEG ATTACK (Amplitude Envelope Generator Attack) .... [Knob 1]

Relative

[Settings] -64 ~ +63

Determines the speed of attack from the time a note is played until the maximum initial level of the envelope is reached. The smaller the value the faster the attack.

2 AEG DECAY (Amplitude Envelope Generator Decay)...[Knob 2]

Relative

[Settings] -64 ~ +63

Determines how fast the envelope falls from maximum attack level to the sustain level. The smaller the value the faster the decay.

3 AEG SUSTAIN (Amplitude Envelope Generator Sustain).. [Knob 3]

Relative

[Settings] -64 ~ +63

Determines the sustain level at which the envelope will continue while a note is held, after the initial attack and decay.

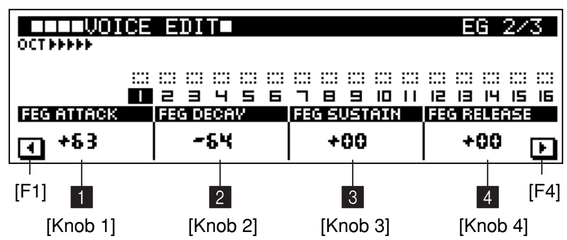
4 AEG RELEASE (Amplitude Envelope Generator Release).. [Knob 4]

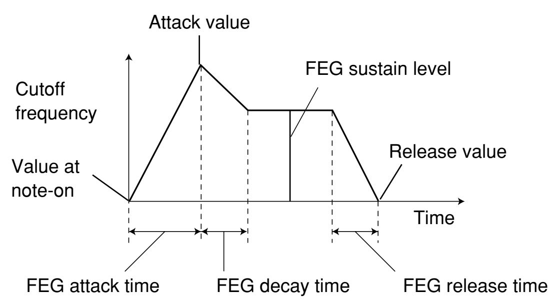
Relative

[Settings] -64 ~ +63

Determines how fast the envelope falls from the sustain level to zero when a note is released. The lower the value the faster the release.

■ FEG Page





1 FEG ATTACK (Filter Envelope Generator Attack) .... [Knob 1]

Relative

[Settings] -64 ~ +63

Determines the speed of filter variation from the time a note is played until the maximum initial level of the envelope is reached. The smaller the value the faster the attack.

2 FEG DECAY (Filter Envelope Generator Decay) .... [Knob 2]

Relative

[Settings] -64 ~ +63

Determines how fast the filter envelope falls from maximum attack level to the sustain level. The smaller the value the faster the decay.

3 FEG SUSTAIN (Filter Envelope Generator Sustain).. [Knob 3]

Relative

[Settings] -64 ~ +63

Determines the sustain level at which the filter envelope will continue while a note is held, after the initial attack and decay.

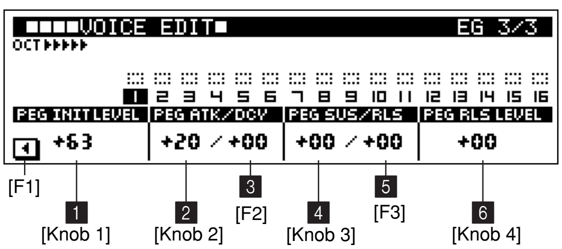
4 FEG RELEASE (Filter Envelope Generator Release)..[Knob 4]

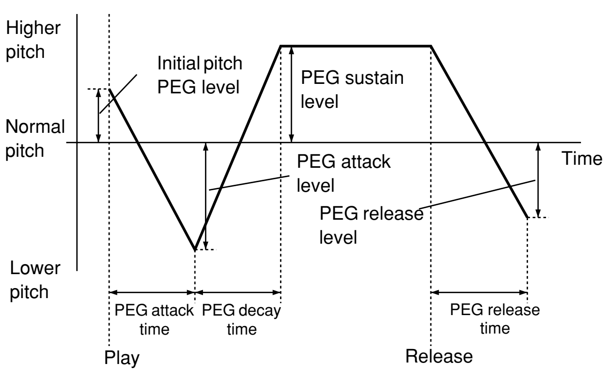
Relative

[Settings] -64 ~ +63

Determines how fast the filter envelope falls from the sustain level to zero when a note is released. The lower the value the faster the release.

■ PEG Page





1 PEG INIT LEVEL (Pitch Envelope Generator Initial Level) .... [Knob 1]

Relative

[Settings] -64 ~ +63

Specifies the initial pitch of the note. Lower values produce lower pitch.

2 PEG ATK (Pitch Envelope Generator Attack)

....[Knob 2]

Relative

[Settings] -64 ~ +63

Determines the speed of attack from the initial pitch to the normal pitch of the voice. The smaller the value the faster the attack.

3 PEG DCY (Pitch Envelope Generator Decay)

....[F2] → [Knob 2]

Relative

[Settings] -64 ~ +63

Determines how fast the envelope falls from the normal pitch of the voice to the sustain-level pitch. The smaller the value the faster the decay.
Press [F2] to switch to this parameter.

4 PEG SUS (Pitch Envelope Generator Sustain)

.... [Knob 3]

Relative

[Settings] -64 ~ +63

Sets the sustain-level pitch which will be maintained while a note is held.

5 PEG RLS (Pitch Envelope Generator Release)

....[F3] → [Knob 3]

Relative

[Settings] -64 ~ +63

Determines how fast the envelope falls from the sustain-level pitch to the release-level pitch (below) when a note is released. Press [F3] to switch to this parameter.

6 PEG RLS LEVEL (Pitch Envelope Generator Release Level) .... [Knob 4]

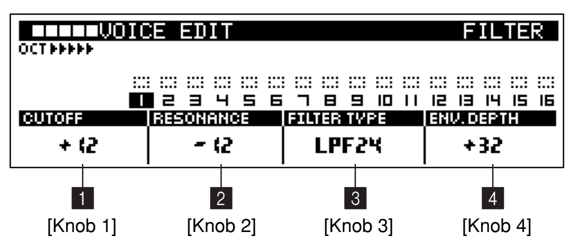
Relative

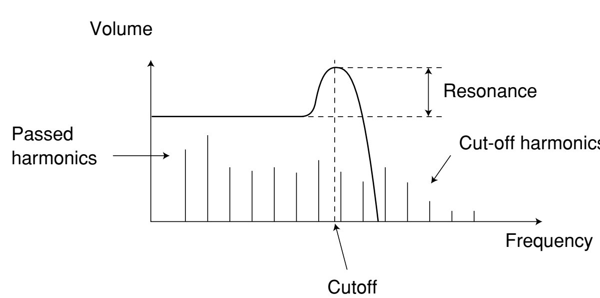
[Settings] -64 ~ +63

Sets the final pitch reached after the note is released.

[5] Filter Page

[PATTERN] → [VOICE EDIT] × 5





1 CUTOFF (Filter Cutoff Frequency) ....[Knob 1]

Relative

[Settings] -64 ~ +63

Sets the filter cutoff frequency. Positive values move the cutoff toward higher frequencies, while negative values move the cutoff toward lower frequencies.
The effect of the cutoff frequency will vary according to the selected filter type.

2 RESONANCE...[Knob 2]

Relative

[Settings] -64 ~ +63

Produces a resonant peak centered at the filter's cutoff frequency.
When the BPF filter type is selected, higher resonance settings produce a narrower passband at the cutoff frequency.
When the BEF filter type is selected, higher resonance settings produce a narrower elimination band at the cutoff frequency.

> **NOTE**
> Increasing the resonance excessively may cause some voices to distort.

3 FILTER TYPE...[Knob 3]

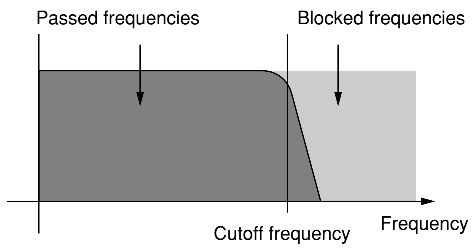
Absolute

[Settings] BYPASS, LPF24, LPF18, LPF12, HPF, BPF, BEF

BYPASS ....The filter is OFF. The filter type indicators on the panel will all be off.

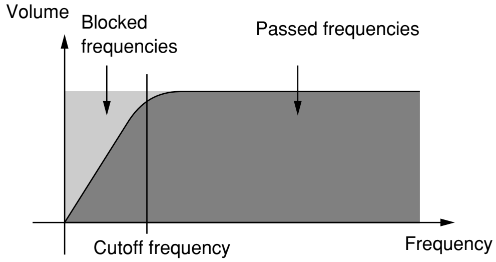
Sets the filter type.

LPF24, LPF18, LPF12 ..... Low-pass filter



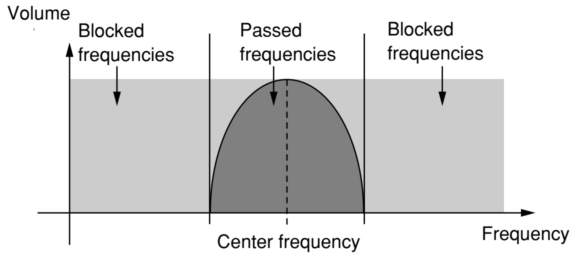
Frequencies higher than the cutoff frequency are cut off. Three cutoff slopes are provided — 24 dB/oct, 18 dB/oct, and 12 dB/oct — each with its own distinct sound.

HPF ....High-pass filter



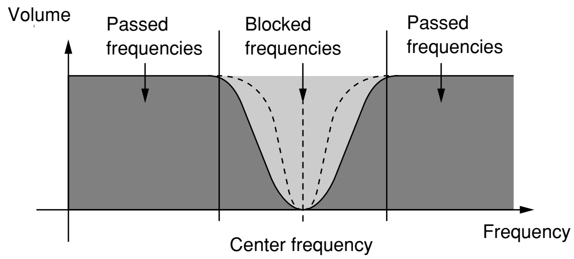
Frequencies lower than the cutoff frequency are cut off.

BPF ....Band-pass filter



Frequencies around the center frequency are passed, while all other frequencies are blocked.

BEF ....Band-elimination filter



Frequencies around the center frequency are blocked, while all other frequencies are passed.

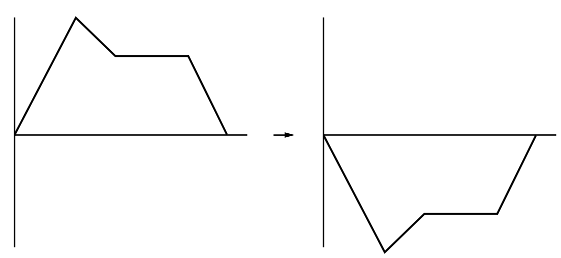
> **NOTE**
> Some 2-element voices use a different filter type for each element. The element-1 filter type is displayed by default. If the filter type is changed the filter types for both elements are changed.

4 ENV. DEPTH (Envelope Depth) .... [Knob 4]

Relative

[Settings] -64 ~ +63

Sets the depth of the filter envelope set via the FEG display (Page 101). Negative settings invert the filter envelope.



9. Adding Effects

This mode is used to select effects for pattern playback and change the effects settings as required. 4 pages are available: Effect Type, Variation Parameters, Delay/Chorus Parameters, and Reverb Parameters. The Variation Parameters are available on 5 sub pages accessible via the [F1] and [F4] buttons, the Delay/Chorus Parameters are available on 4 sub pages accessible via the [F1] and [F4] buttons, and the Reverb Parameters are available on 3 sub pages accessible via the [F1] and [F4] buttons.
Press the [EFFECT] button from the PATTERN Play or Patch mode to go to the EFFECT mode.

Effect Features

- **3 high-performance built-in effect stages can be applied individually to each track.**
- **The effect sound is output via the OUTPUT jacks.**
- **Edited effect settings are memorized with each style.**
  No extra save procedure is necessary. Your edited effect settings are saved with the style data and are automatically recalled whenever a style is selected.
  The depth of the effect applied to each track is determined by the effect send settings.
  If MEMORY PROTECT is ON, however (Page 257), the effect settings will not be saved and will be erased when a different style is selected.

Voice Edit Procedure

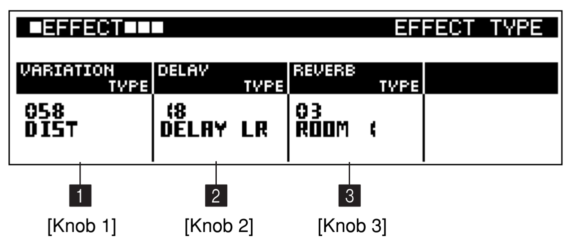
1. Press [EFFECT] while in the PATTERN Play or Patch mode to access the Effect Type page.
2. Use [Knob 1] ~ [Knob 3] to make the required settings.
3. Press [EFFECT] to go to the Variation Parameter page.
4. Use [Knob 1] ~ [Knob 4] to make the required settings.
5. Press [EFFECT] to go to the Delay/Chorus Parameter page.
6. Use [Knob 1] ~ [Knob 4] to make the required settings.
7. Press [EFFECT] to go to the Reverb Parameter page.
8. Use [Knob 1] ~ [Knob 4] to make the required settings.
9. Use the [EXIT] to move back through the Delay/Chorus Parameter, Variation Parameter, and Effect Type pages, and finally to return to the PATTERN Play (or Patch) mode.

> **NOTE**
> When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.

Display Parameters

[1] Effect Type Page

[PATTERN] → [EFFECT]



1 VARIATION TYPE .... **[Knob 1]**

[Settings] 0 ~ 100
Refer to the Effect Type List, page 313.

Selects the variation effect type.

2 DELAY TYPE .... **[Knob 2]**

[Settings] 0 ~ 25
Refer to the Effect Type List, page 313.

Selects the delay effect type.

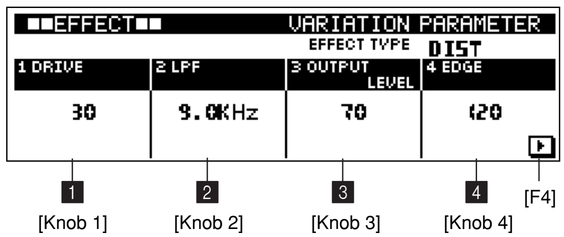
3 REVERB TYPE .... **[Knob 3]**

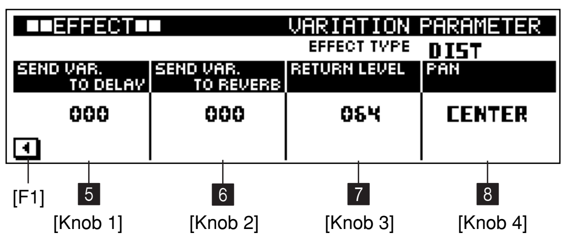
[Settings] 01 ~ 12
Refer to the Effect Type List, page 313.

Selects the reverb effect type.

[2] Variation Parameter Page

[PATTERN] → [EFFECT] × 2





1 ~ 4 EFFECT PARAMETERS .....[Knob 1] ~ [Knob 4]

Allow adjustment of the detailed parameters for each effect. The parameters available are different for each effect. For information on the individual parameters refer to the “Appendix”, page 315.

5 SEND VAR. TO DELAY..[Knob 1]

[Settings] 000 ~ 127

Adjusts the signal level sent from the VARIATION effect stage to the DELAY/CHORUS effect stage.

6 SEND VAR. TO REVERB ....[Knob 2]

[Settings] 000 ~ 127

Adjusts the signal level sent from the VARIATION effect stage to the REVERB effect stage.

7 RETURN LEVEL...[Knob 3]

[Settings] 000 ~ 127

Adjusts the signal level sent from the VARIATION effect stage (the effect or “wet” sound) sent to the RS7000 stereo outputs.

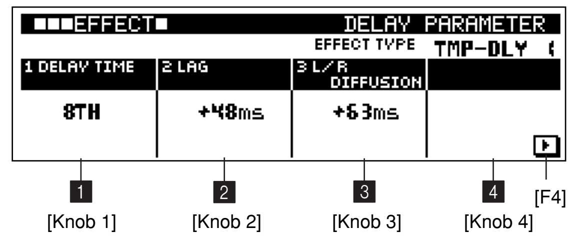
8 PAN (Variation Pan)..[Knob 4]

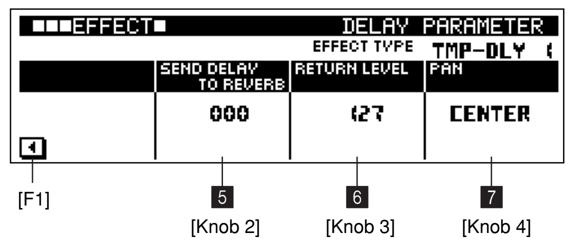
[Settings] L63 ~ CENTER ~ R63

Adjusts the stereo pan position of the signal output from the VARIATION effect stage.

[3] Delay/Chorus Page

[PATTERN] → [EFFECT] × 3





1 ~ 4 EFFECT PARAMETERS.......[Knob 1] ~ [Knob 4]

Allow adjustment of the detailed parameters for each effect. The parameters available are different for each effect. For information on the individual parameters refer to the “Appendix”, page 315.

5 SEND DELAY TO REVERB................................ [Knob 2]

[Settings] 000 ~ 127

Adjusts the signal level sent from the DELAY/CHORUS effect stage to the REVERB effect stage.

6 RETURN LEVEL.. [Knob 3]

[Settings] 000 ~ 127

Adjusts the signal level sent from the DELAY/CHORUS effect stage (the effect or “wet” sound) sent to the RS7000 stereo outputs.

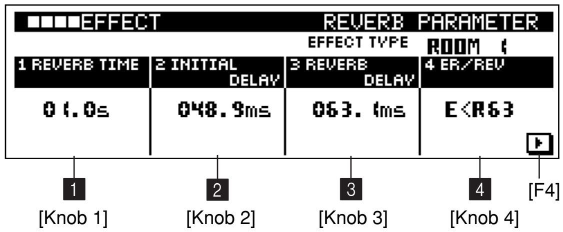
7 PAN (Delay Pan)... [Knob 4]

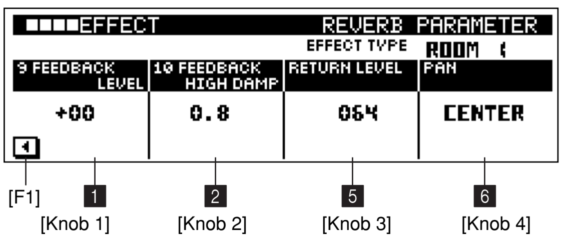
[Settings] L63 ~ CENTER ~ R63

Adjusts the stereo pan position of the signal output from the DELAY/CHORUS effect stage.

[4] Reverb Page

[PATTERN] → [EFFECT] × 4





1 ~ 4 EFFECT PARAMETERS
..[Knob 1] ~ [Knob 4]

Allow adjustment of the detailed parameters for each effect. The parameters available are different for each effect. For information on the individual parameters refer to the “Appendix”, page 315.

5 RETURN LEVEL...[Knob 3]

[Settings] 000 ~ 127

Adjusts the signal level sent from the REVERB effect stage (the effect or “wet” sound) sent to the RS7000 stereo outputs.

6 PAN (Reverb Pan)...[Knob 4]

[Settings] L63 ~ CENTER ~ R63

Adjusts the stereo pan position of the signal output from the REVERB effect stage.

10. Arpeggio & Assignable Knob Settings (Setup)

This sub-mode is used to set up arpeggios, the assignable knobs, and other RS7000 functions. 4 pages are available: Arpeggio Setting, A/D Setup, Knob Assign, and MIDI Out Channel. The A/D Setup parameters are available on 3 sub pages accessible via the [F1] and [F4] buttons. Press the [SETUP] button from the PATTERN Play or Patch mode to go to the SETUP mode.

Setup Features

- **Setup settings are memorized with each style.**
  No extra save procedure is necessary. Your edited setup settings are saved with the style data and are automatically recalled whenever a style is selected.
  If MEMORY PROTECT is ON, however (Page 257), the setup settings will not be saved and will be erased when a different style is selected.

Arpeggio Features

- **Arpeggio performance can be recorded to phrases using real-time recording.**
- **Play effects can be applied to arpeggio performance.**
  This makes it possible to create an unlimited range of arpeggio patterns.
- **Arpeggio settings apply to all tracks.**
- **Arpeggio settings are memorized with each style.**
  No extra save procedure is necessary. Your arpeggio settings are saved with the style data and are automatically recalled whenever a style is selected.
  If MEMORY PROTECT is ON, however (Page 257), the arpeggio settings will not be saved and will be erased when a different style is selected.

Setup Procedure

1. Press [SETUP] while in the PATTERN Play or Patch mode to access the Arpeggio Setting page.
2. Use [Knob 1] ~ [Knob 4] to make the required settings.
3. Press [SETUP] to go to the A/D Setup page.
4. Use [Knob 1] ~ [Knob 4] to make the required settings.
5. Press [SETUP] to go to the Knob Assign page.
6. Use [Knob 1] ~ [Knob 4] to make the required settings.
7. Press [SETUP] to go to the Out Channel page.
8. Press a key on the keyboard while holding the [TRACK SELECT] button to select the track for which the MIDI output channel settings will apply.
9. Use [Knob 3] ~ [Knob 4] to make the required settings.
10. Use the [EXIT] to move back through the Knob Assign, A/D Setup, and Arpeggio Setting pages, and finally to return to the PATTERN Play (or Patch) mode.

> **NOTE**
> When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.

Arpeggio Performance Procedure

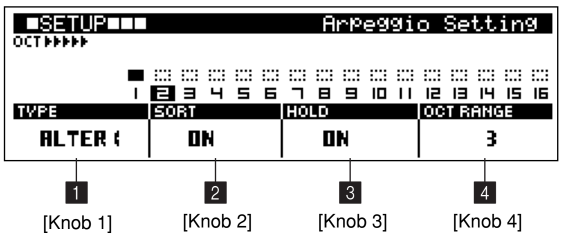
1. In the PATTERN Play or Patch mode press the [ARPEGGIO ON] button so that its indicator lights. The [KEYBOARD] button indicator will also light.
2. Arpeggio playback will begin when you hold one or more notes on the keyboard.
3. If the HOLD parameter in the Arpeggio Setting page is OFF the arpeggio will stop as soon as you release the keys.
   When the HOLD parameters is ON arpeggio playback can be stopped by pressing the [ARPEGGIO ON] button so that its indicator goes out.

Display Parameters

[1] Arpeggio Setting Page

[PATTERN] → [SETUP]

The automatic arpeggios created by the RS7000 are an indispensable element of modern techno and dance music.



> **NOTE**
>
> If you start real-time recording while an arpeggio is playing, recording will begin without a count-in.
> Arpeggio settings apply to all tracks.

1 TYPE...[Knob 1]

[Settings] OFF, UP, DOWN, ALTER1, ALTER2, RANDOM

- **OFF................ Arpeggio playback is OFF.**
- **UP.................. When the SORT parameter is ON, the notes are played in sequence from the lowest to the highest. When SORT is OFF, the notes are played in sequence from the first key pressed to the last.**
- **DOWN .... When the SORT parameter is ON, the notes are played in sequence from the highest to the lowest. When SORT is OFF, the notes are played in sequence from the last key pressed to the first.**
- **ALTER1......... Alternate UP and DOWN arpeggios. The "turnaround" note is played once.**
- **ALTER2......... Alternate UP and DOWN arpeggios. The "turnaround" note is played twice.**
- **RANDOM....... The notes are played in random order.**

Selects the arpeggio type.

2 SORT... [Knob 2]

[Settings] OFF, ON

Determines whether the arpeggio notes will be sorted by pitch or not.
When ON the arpeggio notes are sorted and played from lowest to highest or highest to lowest. This is the normal way to play arpeggios.
When OFF the arpeggio notes are not sorted by pitch. Instead, the notes are played in sequence from the first key pressed to the last, or vice versa, producing different arpeggios depending on how the chord is played.

3 HOLD... [Knob 3]

[Settings] OFF, ON

Determines whether arpeggio playback will continue or not after the notes are released.

4 OCT RANGE .... [Knob 4]

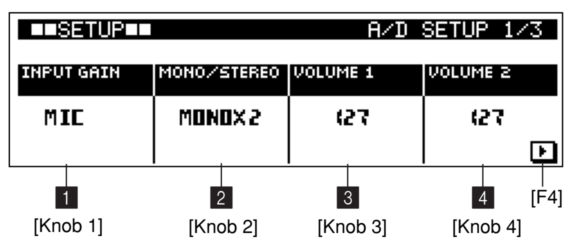
[Settings] 1 ~ 4

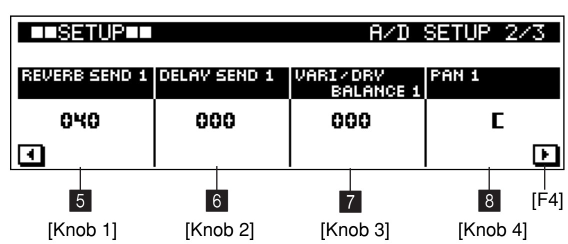
Specifies the maximum arpeggio range in octaves.

[2] A/D Setup Page

[PATTERN] → [SETUP] × 2

The RS7000 INPUT L and R jacks allow an external audio signal to be input and mixed with the sound from the internal tone generator. The external audio signal can even be processed via the RS7000's REVERB, DELAY, and VARIATION effect stages.





> **NOTE**
> When the MONO/STEREO parameter is set to MONO × 2, the [F1] and [F4] buttons can be used to switch pages providing access to individual REVERB SEND 1/2, DELAY SEND 1/2, and VARIATION SEND 1/2, and PAN 1/2 parameters for each channel.
> A/D settings for the INPUT L jack are provided in A/D Setup page 2/3, and settings for the INPUT R jack are provided in A/D Setup page 3/3.

1 INPUT GAIN .... [Knob 1]

[Settings] MIC, LINE

Matches the input gain of the INPUT L and R jacks to the type of source used. The MIC setting produces input gain high enough for direct microphone input, while the LINE setting lowers the gain for optimum matching with line-level sources.
This INPUT GAIN setting also applies to SAMPLING procedure (Page 229).

2 MONO/STEREO... [Knob 2]

[Settings] MONO × 2, STEREO

Determines whether signals input via the INPUT L and R jacks will be handled as separate mono signals (MONO × 2), or as a stereo pair (STEREO).

3 VOLUME 1 .... [Knob 3]

[Settings] 0 ~ 127

Adjusts the volume of the input signal.
processed this parameters adjusts the volume of the INPUT L signal, and when a stereo signal is being received it adjusts the volume of the L and R inputs.

4 VOLUME 2... [Knob 4]

[Settings] 0 ~ 127

Adjusts the volume of the input signal.
When a mono signal is being processed this parameters adjusts the volume of the INPUT R signal.
This parameter cannot be set when MONO/STEREO is set to STEREO.

5 REVERB SEND 1/2 .... [Knob 1]

[Settings] 0 ~ 127

Adjusts the level of the signal sent to the REVERB effect stage.

6 DELAY SEND 1/2... [Knob 2]

[Settings] 0 ~ 127

Adjusts the level of the signal sent to the DELAY/CHORUS effect stage.

7 VARIATION SEND 1/2 .... [Knob 3]

[Settings] 0 ~ 127

Adjusts the level of the signal sent to the VARIATION effect stage.
"0" produces the dry signal only, and "127" produces the variation sound only.

8 PAN 1/2 .... [Knob 4]

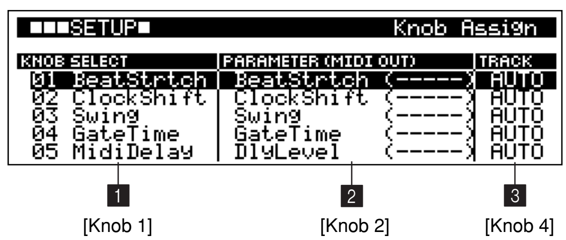
[Settings] L63 ~ CENTER ~ R53

Adjusts the stereo pan position of the A/D input signal.

[3] Knob Assign Page

[PATTERN] → [SETUP] × 3

This knob allows a range of parameters and tracks to be assigned to the panel knobs.
The 4 LFO DEPTH and EG knobs can be independently set for AMO, FILTER, and PITCH. Assignments can be made for up to 31 knobs.



1 KNOB SELECT .... [Knob 1]

[Settings] 1 ~ 31

Specifies the knob to which a parameter or tracks will be assigned.

2 PARAMETER (MIDI OUT).............................. [Knob 2]

Specifies the parameter to be assigned to the knob selected via KNOB SELECT, above.
Control numbers 001 ~ 119 (except 32), pitch bend, BPM, as well as play effect and MIDI delay parameters can be assigned.

3 TRACK.. [Knob 4]

[Settings] AUTO, 01 ~ 16

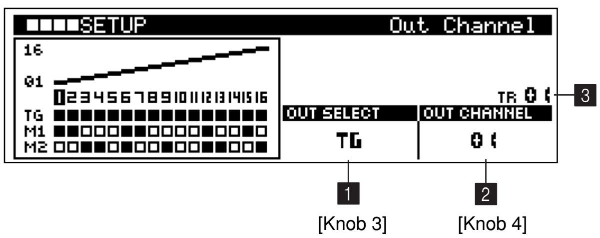
Specifies the track to be controlled by the knob selected via KNOB SELECT, above.
When set to AUTO, the selected track will be automatically assigned to the knob.
When set to 01 ~ 16, the specified track is assigned to the knob regardless of the currently selected track.

> **NOTE**
>
> When a knob is operated during pattern playback, playback of the style data corresponding to the parameter assigned to that knob will stop. For example, if a knob assigned to reverb send is operated during pattern playback, the reverb-send style data will stop playing back. Playback will resume normally after playback is stopped, the style number is changed, or the section is changed.

[4] Out Channel Page

[PATTERN] → [SETUP] × 4

The parameters in this page assign the MIDI transmit channel for each track and output destination: the tone generator and MIDI A and B connectors.



1 OUT SELECT .... [Knob 3]

[Settings] TG, MIDI A, MIDI B

TG.................. Output is sent to the RS7000 tone generator.

MIDI A............ Output is sent to the MIDI OUT A connector.

MIDI B............ Output is sent to the MIDI OUT B connector.

Determines the MIDI output for which a channel number is to be assigned.

2 OUT CHANNEL .... [Knob 4]

[Settings] OFF, 01 ~ 16

OFF................ No MIDI data is transmitted.

01 ~ 16........... MIDI data is transmitted on the specified channel.

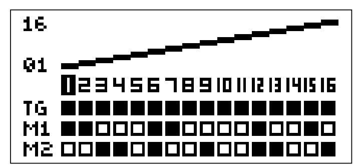
Specifies the MIDI transmit channel.

3 TR (Track)

[Settings] 01 ~ 16

Selects the track for which a transmit channel is to be assigned.
To select a track press the appropriate key on the keyboard while holding the [TRACK SELECT] button.

> **NOTE**
>
> The graphic display on the left side of the LCD shows the MIDI channel assignments for TG (the internal tone generator), MA (MIDI A), and MB (MIDI B).
> The upper area of this display indicates the MIDI transmit channel assignments for each track.
> The boxes in the lower area of the display indicate when the MIDI channel assignment for the corresponding destination is OFF or not. An empty box indicates OFF, and a solid filled box indicates that a transmit channel, 01 ~ 16, is assigned.



11. Master EQ and Effects

The MASTER sub-mode provides access to the master EQ parameters which adjust the sound at the final output stage, and the master effect parameters.
The Master EQ parameters are available on 3 sub pages accessible via the [F1] and [F4] buttons, and the Master Effect parameters are available on 5 sub pages accessible via the [F1] and [F4] buttons.
Press the [MASTER] button from the PATTERN Play or Patch mode to go to the MASTER mode.
The MASTER settings apply to all styles and songs.

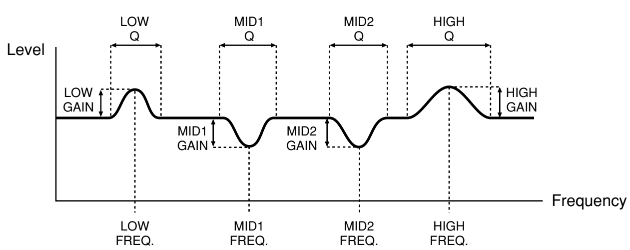
Master Setup Procedure

1. Press [MASTER] while in the PATTERN Play or Patch mode to access the Master EQ display page.
2. Use [Knob 1] ~ [Knob 4] to make the required settings.
3. Press [MASTER] to go to the Master Effect page.
4. Use [Knob 1] ~ [Knob 4] to make the required settings.
5. Use the [EXIT] to move back to the Master EQ page, and finally to return to the PATTERN Play (or Patch) mode.

> **NOTE**
> When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.

Master EQ

The Master EQ is a 4-band equalizer which can be used to adjust the sound at the final output stage of the RS7000.
The Master EQ allows the type of response control shown in the graph below via 3 parameter pages: GAIN, FREQUENCY, and Q.



Master Effect

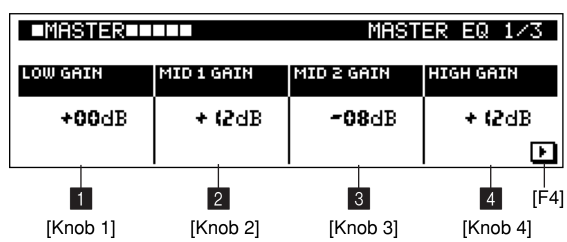
Master Effects provide a number of sophisticated sound processing options at the final output stage of the RS7000.
A block diagram of the Master Effects is given below.

> **NOTE**
> - The Master EQ and Master Effects do not apply to the assignable outputs.
> - The Master EQ and Master effects apply to all signals output via the stereo outputs, and are ideal for final “master” processing of the sound.

Display Parameters

[1] Master EQ Page

[PATTERN] → [MASTER]



1 LOW GAIN .... **[Knob 1]**
[Settings] -24 dB ~ +24 dB

Sets the amount of low-frequency gain (boost or cut).

2 MID1 GAIN .... **[Knob 2]**
[Settings] -12 dB ~ +12 dB

Sets the amount of low-mid gain (boost or cut).

3 MID 2 GAIN .... [Knob 3]

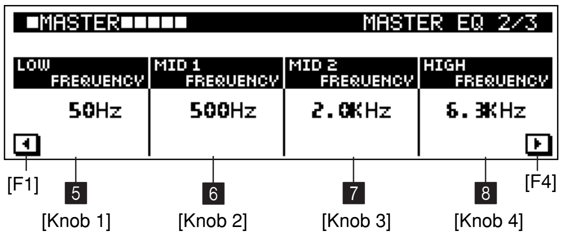
[Settings] -12 dB ~ +12 dB

Sets the amount of high-mid gain (boost or cut).

4 HIGH GAIN .... [Knob 4]

[Settings] -12 dB ~ +12 dB

Sets the amount of high-frequency gain (boost or cut).



5 LOW FREQUENCY .... [Knob 1]

[Settings] 63 Hz ~ 2.0 kHz

Sets the frequency of the low EQ band.

6 MID 1 FREQUENCY .... [Knob 2]

[Settings] 100 Hz ~ 10.0 kHz

Sets the frequency of the low-mid EQ band.

7 MID 2 FREQUENCY .... [Knob 3]

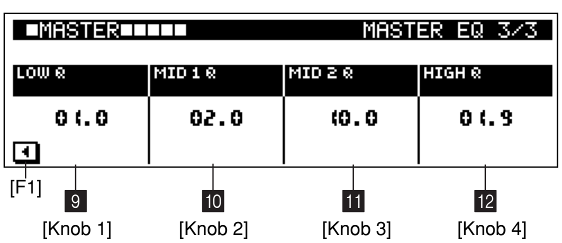
[Settings] 100 Hz ~ 10.0 kHz

Sets the frequency of the high-mid EQ band.

8 HIGH FREQUENCY .... [Knob 4]

[Settings] 500 Hz ~ 16.0 kHz

Sets the frequency of the high EQ band.



9 LOW Q .... [Knob 1]

[Settings] 0.01 ~ 12.0

Sets the Q (bandwidth) of the low EQ band. Lower values produce a broader bandwidth — i.e. a wider range of frequencies will be boosted or cut.

10 MID 1 Q .... [Knob 2]

[Settings] 0.01 ~ 12.0

Sets the Q (bandwidth) of the low-mid EQ band. Lower values produce a broader bandwidth — i.e. a wider range of frequencies will be boosted or cut.

11 MID 2 Q .... [Knob 3]

[Settings] 0.01 ~ 12.0

Sets the Q (bandwidth) of the high-mid EQ band. Lower values produce a broader bandwidth — i.e. a wider range of frequencies will be boosted or cut.

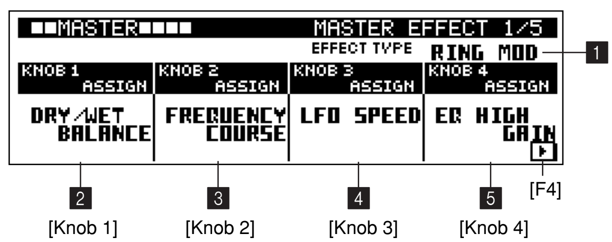
12 HIGH Q .... [Knob 4]

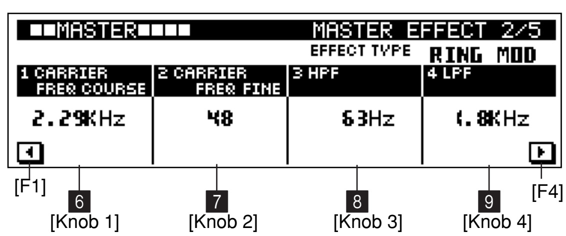
[Settings] 0.01 ~ 12.0

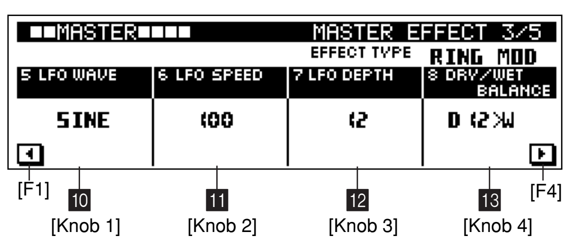
Sets the Q (bandwidth) of the high EQ band. Lower values produce a broader bandwidth — i.e. a wider range of frequencies will be boosted or cut.

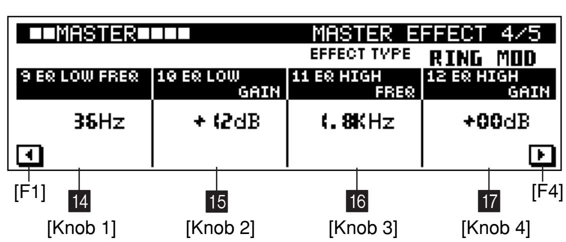
[2] Master Effect Page

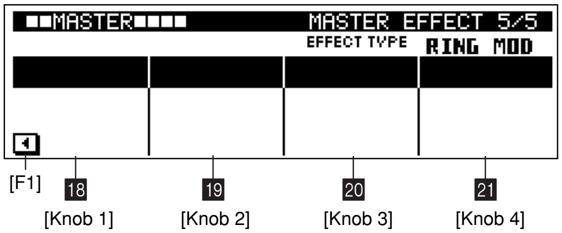
[PATTERN] → [MASTER] × 2











1 EFFECT TYPE .... MASTER EFFECT Select Knob

[Settings] ISOLATION, D-FILTER, CTRL DELAY, MULTI COMP, RING MOD, V-DIST, LO-FI, SLICE

Selects the master effect type from the 8 types provided.

2 KNOB 1 ASSIGN ....[Knob 1]

[Settings]

Effect parameter 1 ~ 16 (Refer to the "Effect Parameter List" on page 315)

Specifies the parameter to be controlled by [CONTROL KNOB 1].
The parameters which can be assigned depend on the selected effect type.
The effect parameter to be controlled by the control knob can be independently assigned for each effect type.

3 KNOB 2 ASSIGN ....[Knob 2]

[Settings]

Effect parameter 1 ~ 16 (Refer to the "Effect Parameter List" on page 315)

Specifies the parameter to be controlled by [CONTROL KNOB 2].
The parameters which can be assigned depend on the selected effect type.
The effect parameter to be controlled by the control knob can be independently assigned for each effect type.

4 KNOB 3 ASSIGN ....[Knob 3]

[Settings]

Effect parameter 1 ~ 16 (Refer to the "Effect Parameter List" on page 315)

Specifies the parameter to be controlled by [CONTROL KNOB 3].
The parameters which can be assigned depend on the selected effect type.
The effect parameter to be controlled by the control knob can be independently assigned for each effect type.

5 KNOB 4 ASSIGN .... [Knob 4]

[Settings]

Effect parameter 1 ~ 16 (Refer to the "Effect Parameter List" on page 315)

Specifies the parameter to be controlled by [CONTROL KNOB 4].
The parameters which can be assigned depend on the selected effect type.
The effect parameter to be controlled by the control knob can be independently assigned for each effect type.

6 ~ 21 EFFECT PARAMETERS 1 ~ 16

.. [Knob 1] ~ [Knob 4]

These settings adjust the corresponding effect parameters, thus determining the sound of the effect.
The number and type of available parameters depend on the selected effect type.
Refer to page 315 of the Appendix for information on the parameters for each effect type.

12. Saving to Memory Card or Disk

The SAVE sub-mode allows you save and load data to or from standard memory cards — available at many electronics and computer stores — or SCSI disks.
5 display pages are provided: Save, Export, Rename, Delete, and Format.
Press [SAVE] from the PATTERN Play or Patch mode to go to the SAVE sub mode. The SAVE sub mode cannot be selected, however, during pattern playback or recording.

Handling the Memory Card (SmartMedia™*)

Be sure to handle Memory Cards with care. Follow the important precautions below.

● **Compatible Memory Card Type**

3.3V(3V) Memory Cards can be used. 5V type Memory Cards are not compatible with this instrument.
A blank 8MB Memory Card has been included in your instrument.
* SmartMedia is a trademark of Toshiba Corporation.

● **Memory Capacity**

There are five types of Memory Cards: 2MB/4MB/8MB/16MB/32MB. A Memory Card with the memory capacity exceeding 32MB can also be used if it conforms to the standards of SSFDC (Solid State Memory Card: another name of SmartMedia) Forum.

● **Inserting/Removing Memory Cards**

To insert a Memory Card:

Hold the Memory Card so that the connector section (gold) of the Memory Card is facing downward and forward, towards the Memory Card slot. Carefully insert the Memory Card into the slot, slowly pushing it all the way in until it is fitted in place.
* Don't insert the Memory Card in wrong direction.
* Don't insert anything other than a Memory Card in the slot.

To remove a Memory Card:

Before removing the Memory Card, be sure to confirm that the Memory Card is not in use (see the following note), or it is not being accessed by the instrument. Then pull the Memory Card out slowly by hand.

NOTE

*"During access" includes save, load, format, delete, and directory creation operations. Also, be aware that the instrument will automatically access the Memory Card to check the media type when it is inserted while the instrument is turned on.

CAUTION

Never attempt to remove the Memory Card or turn the power off during accessing. Doing so can damage the data on the instrument/Memory Card and possibly the Memory Card itself.

Formatting Memory Cards

Before using a Memory Card with your instrument it must first be formatted. Once it is formatted all data on it will be erased. Be sure to check if the data is unnecessary for you or not, beforehand.

CAUTION

The supplied memory card contains style data when initially shipped. Use a separate memory card or save the style data to an external SCSI disk if you want to keep this style data.

NOTE

* The Memory Cards formatted with this instrument may become unusable with other instruments.

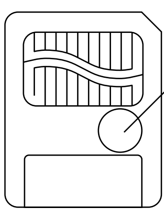
● **About the Memory Cards**

To handle Memory Cards with care:

- There are times when static electricity affects Memory Cards. Before you handle Memory Cards, to reduce the possibility of static electricity, touch the metal parts such as a door knob and aluminum sash.
- Be sure to remove the Memory Card from the Memory Card slot when it is not in use for a long time.
- Do not expose the Memory Card to direct sunlight, extremely high or low temperatures, or excessive humidity, dust or liquids.
- Do not place heavy objects on a Memory Card or bend or apply pressure to the Memory Card in any way.
- Do not touch the metal part (gold) of the Memory Card or put any metallic plate onto the metal part.
- Do not expose the Memory Card to magnetic fields, such as those produced by televisions, speakers, motors, etc., since magnetic fields can partially or completely erase data on the Memory Card, rendering it unreadable.
- Do not attach anything other than the provided labels to a Memory Card. Also make sure that labels are attached in the proper location.

To protect your data (Write-protect):

To prevent inadvertent erasure of important data, stick the write-protect seal (provided in the Memory Card package) onto the designated area (within a circle) of the Memory Card.
Conversely speaking, to save data on the Memory Card, make sure to remove the write-protect seal from the Card.
Do not reuse the seal that is peeled off.

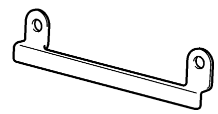


Data Backup

For maximum data security Yamaha recommends that you keep two copies of important data on separate Memory Cards. This gives you a backup if one Memory Card is lost or damaged.

Installing the security bracket

You can install an optional security bracket to prevent theft of the memory card. Install the security bracket as needed.



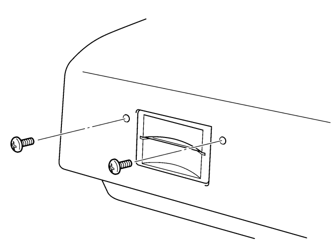
IMPORTANT

If the security bracket is installed, it will not be possible to insert or remove the memory card. Before you install the security bracket, check to see whether the memory card is inserted in the memory card slot.

Procedure

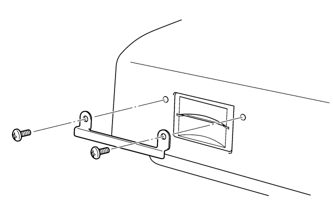
1. Be sure that you have the following at hand before starting the installation.
   - Security bracket
   - Phillips screwdriver: Magnetic-tipped screwdriver is recommended.
2. Remove the two screws at either side of the memory card slot.

   Use a Phillips screwdriver to remove the two screws from the locations shown below.



3. Attach the security bracket.

   Position the security bracket in the correct orientation (see illustration below), and use the two screws you removed in Step 2 to fasten it in place.



2 The Pattern Mode

About Disks

- Only DOS-format disks (The CD-ROM format is ISO9660 Level 1) can be used by the RS7000. Disks formatted by the RS7000 are formatted using DOS format.
- The RS7000 cannot write to CD-R/RW disks.
- Disks formatted to DOS format by a personal computer can be used with the RS7000, but we recommend using disks formatted by the RS7000.
- When formatted using the RS7000, disks with a capacity of less than 260 MB are formatted using FAT16 format, and larger disks are formatted using FAT32 format.
- MO disks which can be used with the RS7000 include 128 MB, 230 MB, and 540 MB types. MO disks with a capacity of 640 MB and above cannot be used.
- The RS7000 can use up to 2 GB removable disks. Even if a larger disk is connected the RS7000 will use a maximum of 2 GB. Further, all removable disks are formatted using FAT16 format.

About File Types

Files Types Handled In the Save Page

The file styles handled via the SAVE page (Chapter 2: Pattern Mode, Chapter 3: Pattern Chain Mode, Chapter 4: Song Mode) are described in this section.

● PATT (Pattern)

All data included in the selected style is saved as a single file.
In addition to all 16 patterns in the style, corresponding to sections A through P, and all user phrases, PATT files include groove, play effect, MIDI delay, mixer, voice edit, effect, setup, and master settings. Further, when a style uses local samples or common sample voices, the samples are saved as well.

● SONG

All data included in the selected song is saved as a single file.
Song files include the MIDI data recorded in tracks 1 through 16, groove, play effect, MIDI delay, mixer, voice edit, effect, and setup settings. Further, when a song uses local samples or common sample voices, the samples are saved as well.

● SMF (Standard MIDI File)

Only the performance data included in the selected pattern is saved to a format-0 standard MIDI file.

● WAV (Wave)

The selected sample is saved in WAV format.

● ALL

All data in the RS7000 memory is saved as a single file.
ALL files include the following data:

All style data	Style 01 ~ 64 (including 16 patterns and 256 phrases per style).
All pattern chain data	Pattern chain 01 ~ 20
All song data	Song 01 ~ 20
All sample voices	Local sample voices 001 ~ 128 and common sample voices 001 ~ 128 for each style and song.
System setup	Utility mode and other settings.

File Extensions

When any of the files described above are saved, an appropriate 3-character file extension is added automatically to differentiate the file type.

PATT	.R2P
SONG.................................	.R2S
SMF	.MID
WAV	.WAV
ALL...................................	.R2A

When a PATT, SONG or ALL file is saved, the sample data for the sample voices is automatically saved with an R3P, R3S, or R3A extension, respectively. When any of these file is then loaded, the corresponding sample data is also loaded automatically.
When organizing the files on a computer, place the ".R2P" and ".R3P", ".R2S" and ".R3S", ".R2A" and ".R3A" in the same folder, respectively. Also make sure that the names of the data file and paired sample data file are the same in the first 8 characters of the file names, not including the extension.

File Types Handled In the Load Page

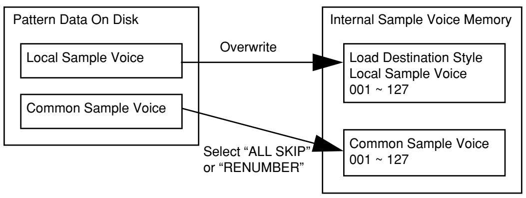
The file styles handled via the LOAD page (Chapter 2: Pattern Mode, Chapter 3: Pattern Chain Mode, Chapter 4: Song Mode) are described in this section.

● PATT (Pattern)

A single style is loaded into the specified style number in the internal memory from a PATT type (.R2P) or ALL type (.R2A) file.
When an ALL type (.R2A) file is selected, the style to be loaded can be specified from multiple styles saved in the ALL file.
In addition to all 16 patterns in the style, corresponding to sections A through P, and all user phrases, PATT files include groove, play effect, MIDI delay, mixer, voice edit, effect, setup, and master settings. Further, when a style uses samples the samples are included in the file as well.

NOTE

When the style to be loaded includes common sample voices, if common sample voices with the same numbers already exist in the internal memory the “ALL SKIP” and “RENUMBER” options become available.
When “ALL SKIP” is selected common sample voices with duplicate numbers are not loaded.
When “RENUMBER” is selected the common sample voices are loaded into vacant numbers.



● **SONG**

A single song is loaded into the specified song number in the internal memory from a SONG type (.R2S) or ALL type (.R2A) file.
When an ALL type (.R2A) file is selected, the style to be loaded can be specified from multiple styles saved in the ALL file.
In addition to all 16 sequence tracks, the BPM track and scene/ mute track, SONG files include groove, play effect, MIDI delay, mixer, voice edit, effect, setup, and master settings. Further, when a song uses samples the samples are included in the file as well.

NOTE

When a song to be loaded includes common voice samples, the procedure is the same as for PATT files, above.

● **ALL**

An ALL type (.R2A) file is loaded and all internal memory except the system setup data is overwritten.

● **ALL+SYSTEM**

An ALL type (.R2A) file is loaded and all internal memory including the system setup data is overwritten.

NOTE

ALL (R2A) files include all data in the RS7000 internal memory, as follows:

All style data	Style 01 ~ 64 (including 16 patterns and 256 phrases per style).
All pattern chain data.....	Pattern chain 01 ~ 20
All song data..................	Song 01 ~ 20
All sample voices...........	Local sample voices 001 ~ 128 and common sample voices 001 ~ 128 for each style and song.
System setup.................	Utility mode and other settings.

● **SMPL (Sample Voice)**

A specified sample from multiple sample voices included in a PATT (.R2P), SONG (.R2S) or ALL (.R2A) type file can be loaded to the specified sample voice number.

● **SMF (Standard MIDI File)**

Sequence data can be loaded into the currently selected pattern from an SMF (Standard MIDI File, format-0) type file.

● **RM1x PATT**

Pattern data saved in RM1x pattern format can be loaded into the currently selected RS7000 style.

● **RM1x SONG**

RM1x SONG type files can be loaded into the currently selected SONG number.

● **SAMPLE**

Sample data and WAV files can be loaded into the specified internal sample voice number.
Data saved to a SCSI disk by the devices listed below can be imported:
A5000, A4000, A3000 .... Sample (From SCSI disk)
SU700 .... Sample (From SCSI disk)
Computer............................ AIFF file (.AIF),
WAV file (.WAV, from SCSI disk or memory card, 8/16-bit linear, mono/stereo)

NOTE

- Some imported samples may play at an unexpected pitch, loop playback may change, or the sound quality may vary.
- Programs and samples saved to SCSI disk in AKAI S1000 or S3000 format can be imported by the RS7000 (with some exceptions).
- Akai-format disks and other CD-ROMs cannot be used at the same time.

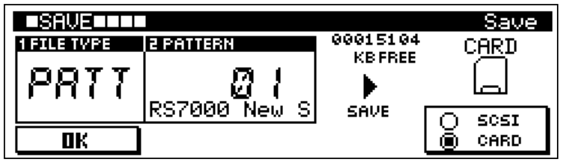
* Any product names and company names which appear in this document are trademarks or registered trademarks of the respective companies.

Save Page Structure

The SAVE sub-mode includes the following display pages.

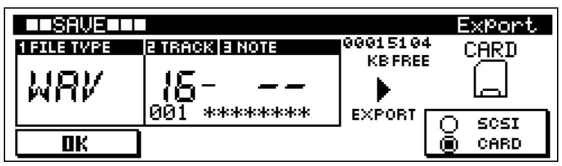
● **Save...(Page 118)**

Saves data from the internal memory to memory card or disk.



● **Export...(Page 120)**

Saves the selected sample or pattern to memory card or disk in a standard format — SMF or WAV — that can be handled by a personal computer.

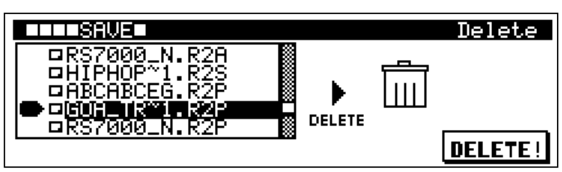


● **Rename...(Page 122)**

Changes the file name of a file stored on memory card or disk.

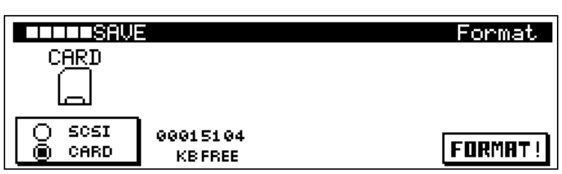
● **Delete...(Page 123)**

Deletes a specified file from memory card or disk.



● **Format...(Page 124)**

Formats a memory card or disk.



[1] Save Page

Saves internal data to a memory card or disk.

Save Procedure

1. Press the [SAVE] button from the PATTERN Play or Patch mode to go to the Save page.
2. Use [Knob 1] (FILE TYPE) to select the type of file you want to save.
3. If the “PATT” file type is selected, use [Knob 2] (PATTERN) to select the style to be saved.
4. Press [F4] (CARD/SCSI) to specify whether you want to save to a memory card or disk.
5. Press [F1] (OK) to go to the save execution page.
6. Use [Knob 1] (FILE NAME) and the keyboard to enter a file name.
7. Use [Knob 3] to select the folder to which the file is to be saved.
   Select “CurrentDir” at the top of the list to save to the currently selected folder.
   As necessary use [F3](↰)/[F4](OPEN) to move between folders, or [F2](NEW) to create a new folder.

> **NOTE**
> When the save destination is SCSI it is necessary to select the appropriate SCSI ID and partition in the SCSI Setup page.

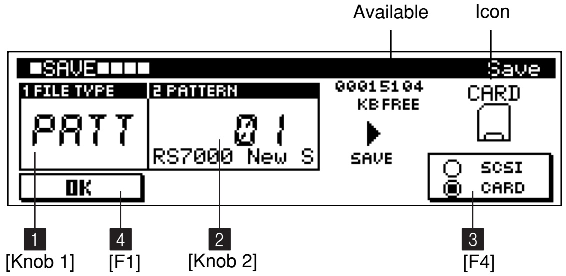
8. Press [F1](SAVE) to execute the save operation.
   If a file with the same file name already exists on the card or disk, the “Overwrite? NO[F2]/YES[F3]” confirmation message will appear.
   Press [F3] if it is OK to overwrite the existing file and replace it with the new file. Press [F2] to cancel the save operation and return to the status prior to pressing the [F1] button (step 5, above).
9. Press [EXIT] to return to the PATTERN Play or Patch mode.

> **NOTE**
> When the file save destination is SCSI only DOS-formatted disks can be used (disks formatted by the RS7000 are formatted using DOS format).

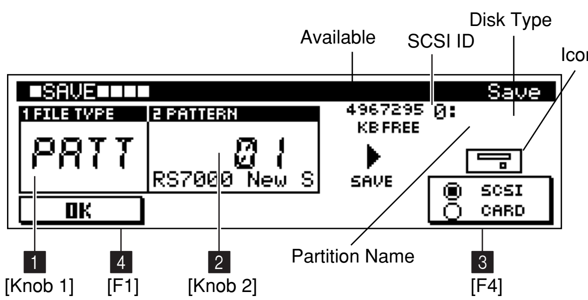
Display Parameters

[PATTERN] → [SAVE]

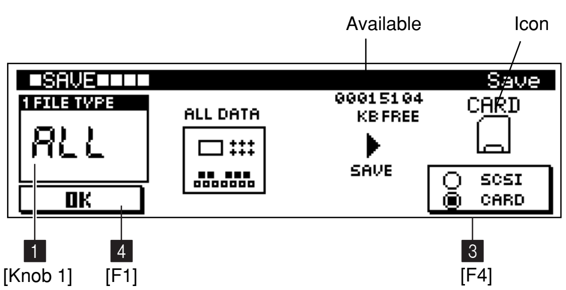
FILE TYPE = PATTERN, CARD or DISK = CARD



FILE TYPE = PATTERN, CARD or DISK = SCSI



FILE TYPE = ALL, CARD or SCSI = CARD



1 FILE TYPE .... [Knob 1]

[Settings] PATT, ALL

Specifies the type of data file to be saved.
For descriptions of the various file types see "About File Types" on page 116.

2 PATTERN .... [Knob 2]

[Settings] Style ..... 01 ~ 64

Selects the pattern to be saved.
This parameter is not available when the FILE TYPE parameter is set to "ALL".

> **NOTE**
> Empty styles which contain no data cannot be saved.

3 SCSI/CARD .... [F4]

[Settings] SCSI, CARD

SCSI .... **The hard disk, ZIP disk, or other SCSI disk connected to the SCSI connector.**
CARD .... **A memory card inserted in the card slot.**

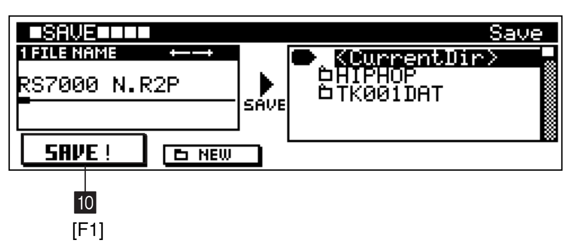
Selects the disk or card to which the data is to be saved.
When CARD is selected and a properly formatted memory card is in the card slot, a memory card icon will appear along with the available memory on the card.
When SCSI is selected and a properly formatted disk is connected to the SCSI connector, a disk icon will appear along with the disk description, SCSI ID number, partition name, and amount of available space in the partition.

4 OK .... [F1]

Switches to the save execution page.

■ Save Execution Page

[PATTERN] → [SAVE] → [F1]



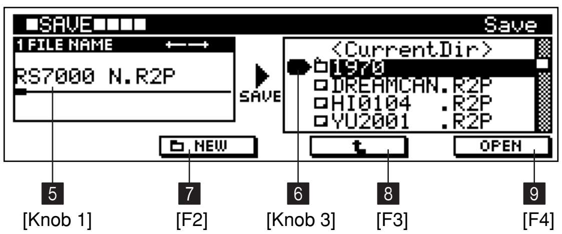
5 FILE NAME .... [Knob 1]

Moves the cursor for file-name entry.
Use [Knob 1] to move the cursor to the desired character position, then use the keyboard to enter the desired character. Refer to "Chapter 1: Basics", page 67, for character-entry details.

> **NOTE**
> File names can be a maximum of 8 characters in length (not including the extension). Further, the file extension cannot be changed.
> Characters which cannot be used in file names are automatically converted to "_".

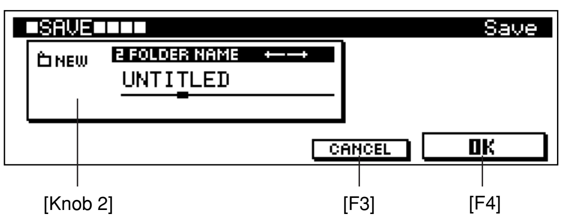
6 Folder Select ....[Knob 3]

Selects the folder to which the file will be saved.
To save to the currently selected folder, select "CurrentDir" at the top of the list.



7 NEW..[F2]

Creates a new folder.
The folder-name entry display will appear.



This page allows entry of file names up to 8 characters in length.
[Knob 2] moves the cursor to the desired character position.
The keyboard is used to enter a character at the cursor position.
Refer to "Chapter 1: Basics", page 67, for character-entry details.
Press [F4] to create a folder and return to the save execution page.
Press [F3] to abort folder creation and return to the save execution page.

8 ↰ (UP)...[F3]

Moves to the next highest folder in the folder hierarchy.

9 OPEN..[F4]

Opens the selected folder, moving down one level in the folder hierarchy.

10 SAVE ....[F1]

Saves the file to the selected folder.
When "CurrentDir" is selected, the file is saved to the currently selected folder.

[2] Export Page

Saves the selected sample or pattern to memory card or disk in a standard format — WAV or SMF — that can be handled by a personal computer.

Export Procedure

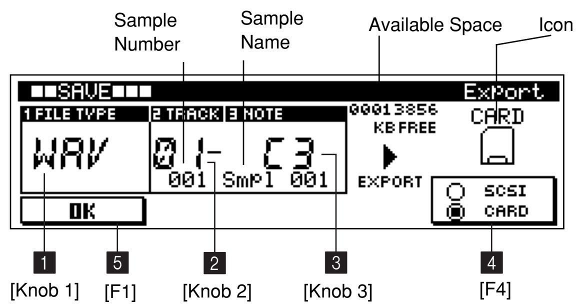
1. Select the pattern containing the data to be exported while in the PATTERN Play or Patch mode.
2. Press the [SAVE] button twice from the PATTERN Play or Patch mode to go to the Save page.
3. Use [Knob 1] (FILE TYPE) to select the type of file you want to save.
4. If the "WAV" file type is selected, use [Knob 2] (TRACK) to select the track which uses the sample to be saved.
5. If the sample assigned to the selected track is a sample kit voice, use [Knob 3] (NOTE) to select the note to which the sample to be exported is assigned.
6. Press [F4] (CARD/SCSI) to specify whether you want to save to a memory card or disk.
7. Press [F1] (OK) to go to the save execution page.
8. Use [Knob 1] (FILE NAME) and the keyboard to enter a file name.
9. Use [Knob 3] to select the folder to which the file is to be saved.
   Select "CurrentDir" at the top of the list to save to the currently selected folder.
   As necessary use [F3](↰)/[F4](OPEN) to move between folders, or [F2](NEW) to create a new folder.
10. Press [F1](EXPORT) to execute the export operation.
    If a file with the same file name already exists on the card or disk, the "Overwrite? NO[F2]/YES[F3]" confirmation message will appear.
    Press [F3] if it is OK to overwrite the existing file and replace it with the new file.
    Press [F2] to cancel the save operation and return to the status prior to pressing the [F1] button (step 5, above).
11. Press [EXIT] twice to return to the PATTERN Play or Patch mode.

> **NOTE**
> - When the file save destination is SCSI only DOS-formatted disks can be used (disks formatted by the RS7000 are formatted using DOS format).
> - When the export destination is SCSI it is necessary to select the appropriate SCSI ID and partition in the SCSI Setup page.

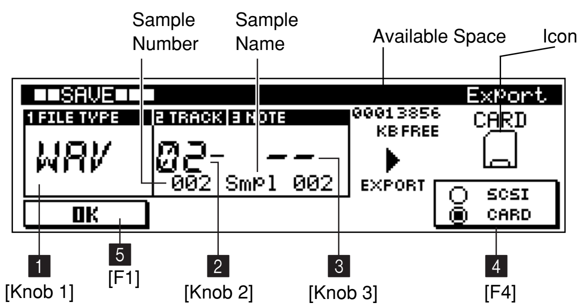
Display Parameters

[PATTERN] → [SAVE] × 2

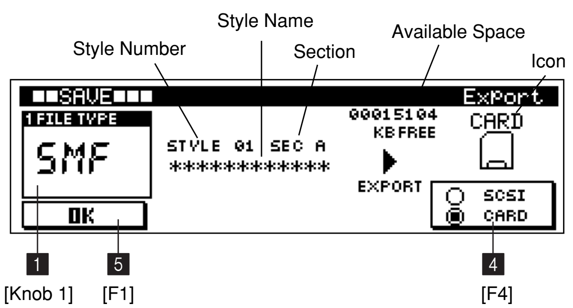
FILE TYPE = WAV, sample kit voice selected



FILE TYPE = WAV, pitched sample voice selected



FILE TYPE = SMF



1 FILE TYPE..**[Knob 1]**

[Settings] WAV, SMF

Specifies the type of data file to be exported.
For descriptions of the various file types see "About File Types" on page 116.
Copy-protected sample files cannot be exported as WAV files. See "Notes on musical copyright" (Page 21).

2 TRACK..**[Knob 2]**

[Settings] 01 ~ 16

Selects the track that uses the sample to be exported.
When the sample used by the selected track is a sample voice, the number and name of the sample will appear on the display.

3 NOTE..**[Knob 3]**

[Settings] C-2 ~ G8

When the sample used by the selected track is a sample kit voice, this parameter selects the note to which the sample to be exported is assigned.
When the sample used by the selected track is a sample voice, the number and name of the sample will appear on the display.

4 SCSI/CARD..**[F4]**

[Settings] SCSI, CARD

SCSI .... **The hard disk, ZIP disk, or other SCSI disk connected to the SCSI connector.**
CARD .... **A memory card inserted in the card slot.**

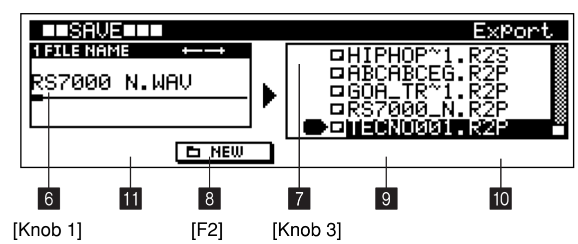
Selects the disk or card to which the data is to be exported.
When CARD is selected and a properly formatted memory card is in the card slot, a memory card icon will appear along with the available memory on the card.
When SCSI is selected and a properly formatted disk is connected to the SCSI connector, a disk icon will appear along with the disk description, SCSI ID number, partition name, and amount of available space in the partition.

5 OK..**[F1]**

Switches to the export execution page.

■ Export Execution Page

[PATTERN] → [SAVE] × 2 → [F1]



6 FILE NAME..**[Knob 1]**

Moves the cursor for file-name entry.
Use [Knob 1] to move the cursor to the desired character position, then use the keyboard to enter the desired character. Refer to "Chapter 1: Basics", page 67, for character-entry details.

> **NOTE**
> File names can be a maximum of 8 characters in length (not including the extension). Further, the file extension cannot be changed.
> Characters which cannot be used in file names are automatically converted to "_".

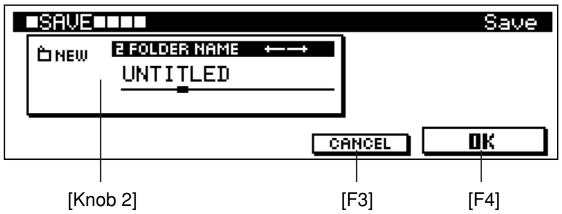
2 The Pattern Mode

7 Folder Select ....[Knob 3]

Selects the folder to which the file will be saved.
To export to the currently selected folder, select "Current" at the top of the list.

8 NEW ....[F2]

Creates a new folder.
The folder-name entry display will appear.



This page allows entry of file names up to 8 characters in length.
[Knob 2] moves the cursor to the desired character position.
The keyboard is used to enter a character at the cursor position.
Refer to "Chapter 1: Basics", page 67, for character-entry details.
Press [F4] to create a folder and return to the export execution page.
Press [F3] to abort folder creation and return to the export execution page.

9 ↑ (UP) ....[F3]

Moves to the next highest folder in the folder hierarchy.

10 OPEN ....[F4]

Opens the selected folder, moving down one level in the folder hierarchy.

11 EXPORT ....[F1]

When "CurrentDir" is selected, the file is saved to the currently selected folder.

[3] Rename Page

Changes the name of a file or folder.

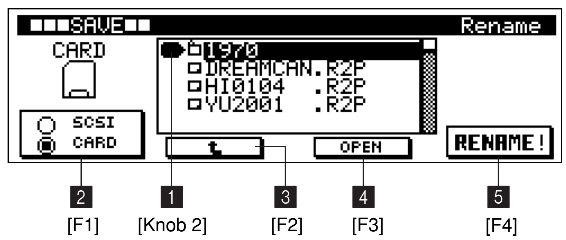
> **NOTE**
> When the target rename media is a SCSI disk, files and folders on DOS-formatted disks can be renamed.

Rename Procedure

1. Press the [SAVE] button 3 times from the PATTERN Play or Patch mode to go to the Rename page.
2. Press [F1] (CARD/SCSI) to specify whether you want to rename a file on a memory card or disk.
3. Use [F2](↑) and [F3] (OPEN) to select a folder.
4. Use [Knob 2] to select the folder and file to be renamed.
5. Press [F4] (RENAME) to go to the name-entry dialog page.
6. Use [Knob 2] (FILE NAME) and the keyboard to enter a file name.
7. Press [F4] to execute the rename operation and close the rename dialog display.
8. Press [EXIT] 3 times to return to the PATTERN Play or Patch mode.

Display Parameters

[PATTERN] → [SAVE] × 3



1 FILE ....[Knob 2]

The file or folder to be renamed.

> **NOTE**
> This function can be used to change the name of any file or folder on a memory card or disk.

2 SCSI/CARD ....[F1]

[Settings] SCSI, CARD

SCSI .... **The hard disk, ZIP disk, or other SCSI disk connected to the SCSI connector.**
CARD .... **A memory card inserted in the card slot.**

Selects the disk or memory card containing the file or folder to be renamed.

When CARD is selected and a properly formatted memory card is in the card slot, a memory card icon will appear.
When SCSI is selected and a properly formatted disk is connected to the SCSI connector, a disk icon will appear along with the disk description, SCSI ID number, and partition name.

3 ↑ **(UP)**............**[F2]**

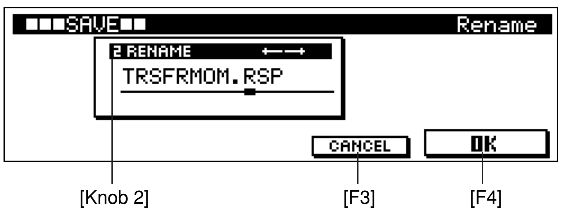
Moves to the next highest folder in the folder hierarchy.

4 **OPEN**............**[F3]**

Opens the selected folder, moving down one level in the folder hierarchy.

5 **RENAME!**............**[F4]**

Opens the file rename and folder name dialog display.



This page allows entry of file names up to 8 characters in length.
[Knob 2] moves the cursor to the desired character position.
The keyboard is used to enter a character at the cursor position. Refer to "Chapter 1: Basics", page 67, for character-entry details.
Press [F4] to rename the folder or file and return to the previous page.
Press [F3] to abort rename and return to the previous page.

> **NOTE**
> Folder names can be up to 8 characters in length.
> Both the file name and file extension can be changed. Be sure that the file name is 8 characters or less, and the file extension is 3 characters or less.
> Characters which cannot be used in file names are automatically converted to "_".

[4] Delete Page

Deletes files or folders.

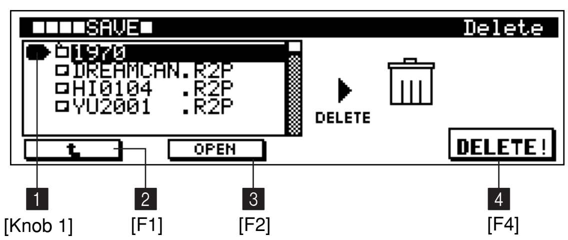
Delete Procedure

1. Press the [SAVE] button from the PATTERN Play or Patch mode to go to the Save page.
2. Press [F4] (CARD/SCSI) to specify whether you want to delete a file from a memory card or disk.
3. Press [SAVE] 3 times to go to the Delete page.
4. Use [F1] (↑) and [F2] (OPEN) to select a folder.
5. Use [Knob 1] to select the folder to be deleted.
6. Press [F4] to delete the file.
7. The "Are you sure? NO[F2]/YES[F3]" confirmation message will appear.
Press [F3] if it is OK to delete the file. Press [F2] to abort the delete operation.
8. Press [EXIT] 4 times to return to the PATTERN Play or Patch mode.

> **NOTE**
> The delete operation is irreversible. Proceed with caution.
> Folders which contain files cannot be deleted. First delete the files in the folder, and then the folder.

Display Parameters

[PATTERN] → [SAVE] × 4



1 **FILE**............**[Knob 1]**

The file or folder to be deleted.

> **NOTE**
> Specifies the file or folder to be deleted from the memory card or disk.

2 ↑ **(UP)**............**[F1]**

Moves to the next highest folder in the folder hierarchy.

3 **OPEN**............**[F2]**

Opens the selected folder, moving down one level in the folder hierarchy.

4 **DELETE!**............**[F4]**

Deletes the selected file or folder.

2 The Pattern Mode

[5] Format Page

Formats memory cards and disks.

Format Procedure

1. Press the [SAVE] button 5 times from the PATTERN Play or Patch mode to go to the Format page.
2. Press [F1] (CARD/SCSI) to specify whether you want to format a memory card or disk.
3. If a SCSI disk is selected, use [Knob 3] to select the type of formatting you want to apply.

> **NOTE**
> Normally when formatting a hard disk, ZIP disk, etc., it is best to start with LOGICAL formatting. If LOGICAL formatting produces an error, then try PHYSICAL formatting.

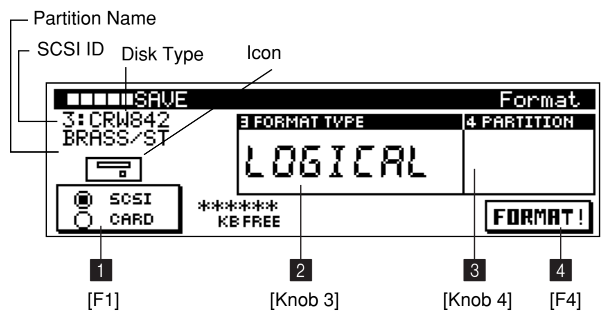
4. When the PARTITION format type is selected, use [Knob 4] to select the disk partition to be formatted.
5. Press [F4] to begin the format operation.
6. The “Are you sure? NO[F2]/YES[F3]” confirmation message will appear.
   Press [F3] if it is OK to go ahead with the format operation. Press [F2] to abort the format operation.
7. Press [EXIT] 5 times to return to the PATTERN Play or Patch mode.

> **NOTE**
> - The format operation erases all data from the target card or disk and is irreversible. Proceed with caution.
> - Before using the above procedure to format a SCSI disk you will need to:
>   1. Press [LOAD] 3 times from the PATTERN Play or Patch mode to display the SCSI Setup page.
>   2. Use [Knob 1] (MOUNT ID) to set the RS7000 SCSI ID number.

Display Parameters

[PATTERN] → [SAVE] × 5

CARD or DISK = SCSI



CARD or DISK = CARD

1 SCSI/CARD .... **[F1]**

[Settings] SCSI, CARD

SCSI .... **The hard disk, ZIP disk, or other SCSI disk connected to the SCSI connector.**

CARD .... **A memory card inserted in the card slot.**

Selects the disk or memory card to be formatted.
When CARD is selected and a properly formatted memory card is in the card slot, a memory card icon will appear.
When SCSI is selected and a properly formatted disk is connected to the SCSI connector, a disk icon will appear along with the disk description, SCSI ID number, and partition name.

2 FORMAT TYPE ....[Knob 3]

[Settings] LOGICAL, PHYSICAL, PARTITION

LOGICAL....... Applies logical formatting to the selected SCSI disk.

PHYSICAL..... Applies physical formatting to the selected SCSI disk. Use this option when LOGICAL formatting produces an error. PHYSICAL formatting takes longer than LOGICAL formatting.

PARTITION ... Formats a selected partition on an already-formatted disk. This option does not affect partitions other than the one selected for formatting.

Selects the type of formatting to be used when a SCSI disk is selected.

3 PARTITION ....[Knob 4]

[Settings] 1 ~ 4

Selects the partition to be formatted when the FORMAT TYPE is set to PARTITION.

4 FORMAT!..[F4]

Executes the format operation, initializing the selected card or disk.

NOTE

- Disks formatted to DOS format by a personal computer can be used with the RS7000, but some partitions may not mount.
- Only 2 GB of space on removable disks larger than 2 GB can be used.
- MO disks larger than 640 MB cannot be used.

13. Loading from Memory Card or Disk

This sub mode is used to load data from a memory card or disk.
4 display pages are provided: Load, Import, SCSI Setup, and SCSI Communication.
Press [LOAD] from the PATTERN Play or Patch mode to go to the Load display.

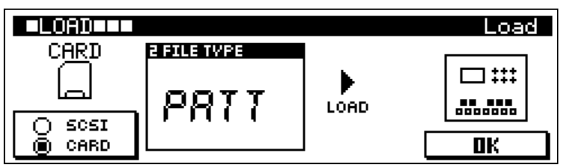
> **NOTE**
> - Refer to “Chapter 12: Saving to Memory Card or Disk” for information about the types of memory cards and disks that can be used with the RS7000. (Page 114)
> - If the memory protect function is ON, “Memory Protected” will appear on the display when the [F1] button is pressed and it will not be possible to load data. In this case go to the UTILITY mode System page (Page 257) and turn MEMORY PROTECT “OFF”.

Load Page Structure

The LOAD sub-mode includes the following display pages.

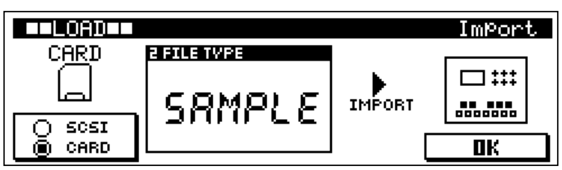
● Load...(Page 126)

Loads data into the internal memory from memory card or disk.



● Import...(Page 129)

Loads sequence or sample data saved to disk using other equipment, or saved to memory card or disk by a computer.

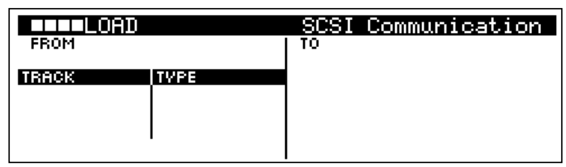


● SCSI Setup...(Page 131)

Provides access to a number of SCSI settings.

● SCSI Communication...(Page 132)

Allows communication with the YAMAHA TWE Wave Editor application running on a personal computer.



[1] Load Page

Loads data to internal memory from a memory card or disk.

Load Procedure

1. Press the [LOAD] button from the PATTERN Play or Patch mode to go to the Load page.
2. Use [Knob 2] (FILE TYPE) to select the type of file you want to load.
3. Press [F1] (CARD/SCSI) to specify whether you want to load from a memory card or disk.
4. Press [F4] (OK) to go to the load execution page.
5. Use [Knob 1] to select the file to be loaded.
   If the file to be loaded is inside a folder, Use [F1] (⮤) and [F2] (OPEN) to move to the folder containing the file.
6. Use [Knob 4] to select the style or track to which the data is to be loaded.
   If the ALL file type was selected in step 2, this parameter does not need to be set and will appear as a blank on the display.

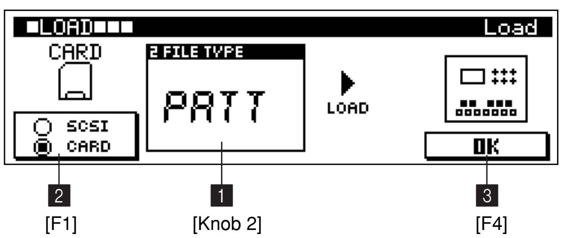
7. Press [F4] to execute the load operation.
If the destination style or sample voice already contains data the “Are You Sure? No[F2]/Yes[F3]” confirmation prompt will appear.
The confirmation prompt will always appear when the “ALL” file type is selected.
Press [F3] if it is OK to overwrite the corresponding memory contents.
Press [F2] to abort the load operation and return to the status of the RS7000 prior to pressing the [F1] button.
8. Press [EXIT] to return to the PATTERN Play or Patch mode.

> **NOTE**
> When the LOAD service is a SCSI disk it is necessary to select the appropriate SCSI ID and partition in the SCSI Setup page.

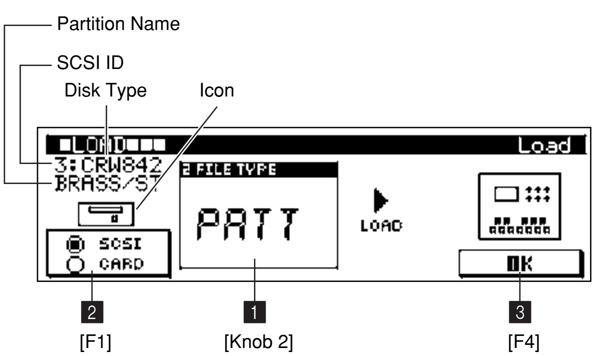
Display Parameters

[PATTERN] → [LOAD]

CARD or DISK = CARD



CARD or DISK = SCSI



1 FILE TYPE .... [Knob 2]

[Settings] PATT, ALL, ALL+SYSTEM, SMPL

PATT (Pattern)
.... A single style is loaded into the specified style number in the internal memory from a PATT type (.R2P) or ALL type (.R2A) file.

ALL ....An ALL type (.R2A) file is loaded and all internal memory except the system setup data is overwritten.

ALL+SYSTEM
.... An ALL type (.R2A) file is loaded and all internal memory including the system setup data is overwritten.

SMPL ....A specified sample from multiple sample voices included in a PATT (.R2P), SONG (.RS2), or ALL (.R2A) type file can be loaded to the specified sample voice number.

Specifies the type of data file to be loaded.
For details about the various file types see “About File Types” on page 116.

2 SCSI/CARD... [F1]

[Settings] SCSI, CARD

SCSI .... The hard disk, ZIP disk, or other SCSI disk connected to the SCSI connector.

CARD .... A memory card inserted in the card slot.

Selects the disk or card from which the data is to be loaded.
When CARD is selected and a properly formatted memory card is in the card slot, a memory card icon will appear along with the available memory on the card.
When SCSI is selected and a properly formatted disk is connected to the SCSI connector, a disk icon will appear along with the disk description, SCSI ID number, and partition name.

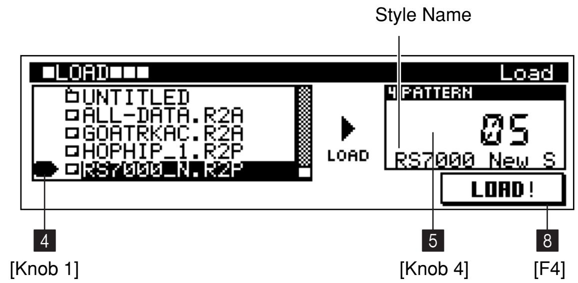
3 OK.. [F4]

Switches to the load execution page.

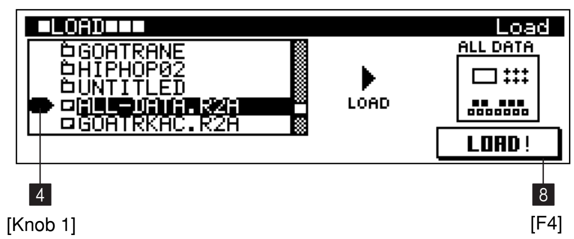
■ Load Execution Page

[PATTERN] → [LOAD] → [F4]

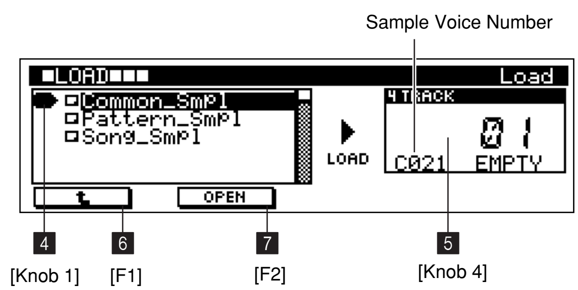
FILE TYPE = PATT



FILE TYPE = ALL, ALL+SYSTEM



FILE TYPE = SMPL



4 File Select .... [Knob 1]

Selects the file to be loaded.
Only files matching the selected file type are shown in the list.
If the file to be loaded is inside a folder, Use [F1] (↑) and [F2] (OPEN) to move to the folder containing the file.

5 PATTERN, TRACK .... [Knob 4]

[Settings]

Style Select (when FILE TYPE = PATT)   01 ~ 64

Track Select (when FILE TYPE = SMPL)   01 ~ 16

When the selected FILE TYPE is PATT

Selects the style to which the data will be loaded.
The name of the selected style is displayed.

When the selected FILE TYPE is SMPL

Selects the track to which the data will be loaded.
If a sample voice is assigned to the selected track and the number of the assigned sample is the same as that of the sample to be loaded, the "REPLACE" appears to indicate that the existing sample will be replaced by the loaded sample.
If no sample voices are assigned to the selected track then an empty sample voice number will be displayed and "EMPTY" will appear to indicate that the sample will be loaded to empty memory.

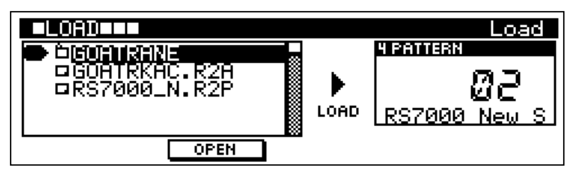
> **NOTE**
> - Select the destination style via the PLAY display.
> - When the load operation is executed, any existing data in the selected style number or sample voice number will be overwritten.

6 ↑ (UP) .... [F1]

Moves to the next highest folder in the folder hierarchy.

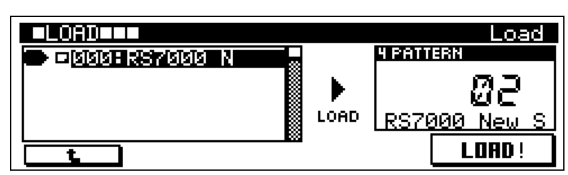
7 OPEN .... [F2]

Opens the selected folder, moving down one level in the folder hierarchy.
When the FILE TYPE is set to PATT or SMPLE, ALL (.R2A) and PATT (.R2P — only when FILE TYPE = SMPL) files can be opened like folders to allow individual styles or sample voices to be selected for loading.



8 LOAD! .... [F4]

Executes the load operation.
If the destination style or sample voice already contains data the "Are You Sure? No[F2]/Yes[F3]" confirmation prompt will appear.
The confirmation prompt will always appear when the "ALL" file type is selected.
Press [F3] if it is OK to overwrite the corresponding memory contents.
Press [F2] to abort the load operation and return to the status of the RS7000 prior to pressing the [F1] button.



> **NOTE**
> When the file type is PATT and the style to be loaded includes common sample voices, if common sample voices with the same numbers already exist in the internal memory the "ALL SKIP" and "RENUMBER" options become available.
> When "ALL SKIP" is selected common sample voices with duplicate numbers are not loaded.
> When "RENUMBER" is selected the common sample voices are loaded into vacant numbers.
> Refer to "About File Types" on page 116 for more information.

[2] Import Page

Loads sequence or sample data which was saved to a SCSI disk or memory card by other music equipment or a personal computer.

Import Procedure

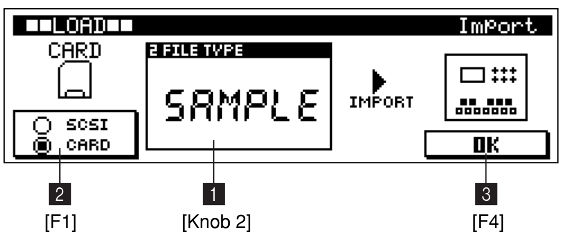
1. Select the pattern to which the data is to be imported while in the PATTERN Play or Patch mode.
2. Press the [LOAD] button twice from the PATTERN Play or Patch mode to go to the Import page.
3. Use [Knob 2] (FILE TYPE) to select the type of file you want to import.
4. Press [F1] (CARD/SCSI) to specify whether you want to import from a memory card or disk.
5. Press [F4] (OK) to go to the import execution page.
6. Use [Knob 1] to select the file to be imported.
   If the file to be imported is inside a folder, Use [F1] (⮤) and [F2] (OPEN) to move to the folder containing the file.
7. If the file to be imported is a sample, use [Knob 3] (TRACK) and [Knob 4] (TYPE) to select the track and sample voice type to which the data is to be imported.
8. Press [F4] to execute the import operation.
   If the destination style or sample voice already contains data the "Are You Sure? No[F2]/Yes[F3]" confirmation prompt will appear. The confirmation prompt will always appear when the "ALL" file type is selected.
   Press [F3] if it is OK to overwrite the corresponding memory contents.
   Press [F2] to abort the import operation and return to the status of the RS7000 prior to pressing the [F1] button.
9. Press [EXIT] twice to return to the PATTERN Play or Patch mode.

> **NOTE**
> When the import source is a SCSI disk it is necessary to select the appropriate SCSI ID and partition in the SCSI Setup page.

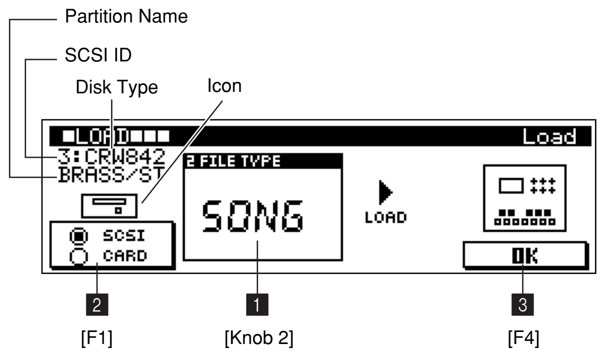
Display Parameters

[PATTERN] → [LOAD] × 2

CARD or DISK = CARD



CARD or DISK = SCSI



1 FILE TYPE .... **[Knob 2]**

[Settings] SAMPLE, SMF, RM1x PATT

SAMPLE........ Sample data, WAV files (.WAV) and AIFF files (.AIF) can be loaded into the specified internal sample voice number.

SMF (Standard MIDI File)....... Sequence data can be loaded into the currently selected pattern from an SMF (Standard MIDI File, format-0 or 1) type file.

RM1x PATT... Pattern data saved in RM1x pattern format can be loaded into the currently selected RS7000 style.

Specifies the type of data file to be imported.
Some imported samples may play at an unexpected pitch, loop playback may change, or the sound quality may vary.
Voice edit and effect settings will not be reproduced when an RM1x PATT file is imported. Voices may also change. Furthermore, sequence data in tracks which use preset phrases cannot be reproduced. For details about the various file types see “About File Types” on page 116.

2 SCSI/CARD....................[F1]

[Settings] SCSI, CARD

SCSI .... The hard disk, ZIP disk, or other SCSI disk connected to the SCSI connector.

CARD .... A memory card inserted in the card slot.

Selects the disk or card from which the data is to be imported.
When CARD is selected and a properly formatted memory card is in the card slot, a memory card icon will appear along with the available memory on the card.
When SCSI is selected and a properly formatted disk is connected to the SCSI connector, a disk icon will appear along with the disk description, SCSI ID number, and partition name.

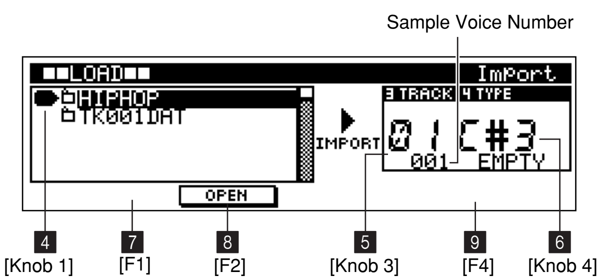
3 OK....................[F4]

Switches to the import execution page.

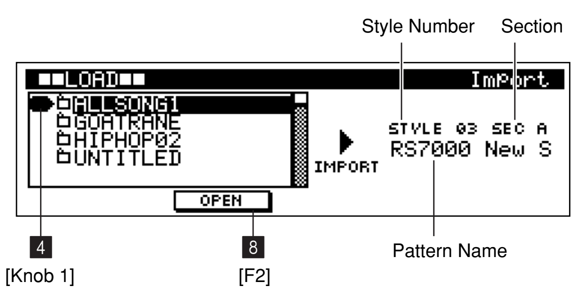
■ Import Execution Page

[PATTERN] → [LOAD] × 2 → [F4]

FILE TYPE = SAMPLE



FILE TYPE = SMF, RM1x PATT



4 File Select....................[Knob 1]

Selects the file to be imported.
Only files matching the selected file type are shown in the list.
If the file to be loaded is inside a folder, Use [F1] (↰) and [F2] (OPEN) to move to the folder containing the file.

5 TRACK....................[Knob 3]

[Settings] 01 ~ 16

Selects the track to which the data will be imported when the FILE TYPE is SAMPLE.

6 TYPE....................[Knob 4]

[Settings] PITCHED, KIT: C-2 ~ G8

Selects the sample voice to be imported when the file type is set to SAMPLE.
The available settings will depend on the type of sample voice assigned to the selected track.

- **When a pitched sample is assigned to the selected track.**
  Two choices will be available: PITCHED SAMPLE and SAMPLE KIT. When SAMPLE KIT is selected you will also need to specify a note name.
  “REPLACE” will appear on the display, and the existing data will be overwritten when the data is imported.
- **When a sample kit is assigned to the selected track.**
  The sample voice type cannot be changed. You will need to specify the note name to which the data will be loaded.
  If the specified note name is empty, “EMPTY” will appear on the display.
  If a sample voice is assigned to the specified note name, “REPLACE” will appear on the display and the existing data will be overwritten.
- **When a sample voice is assigned to the selected track.**
  Two choices will be available: PITCHED SAMPLE and SAMPLE KIT. When SAMPLE KIT is selected you will also need to specify a note name.
  “EMPTY” will appear on the display, and the number of the newly created sample voice will be displayed.

7 ↰ (UP)....................[F1]

Moves to the next highest folder in the folder hierarchy.

8 OPEN....................[F2]

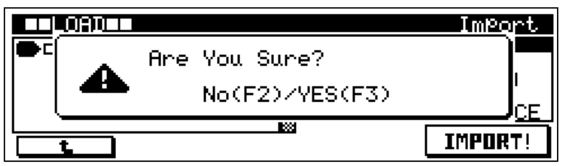
Opens the selected folder, moving down one level in the folder hierarchy.

9 IMPORT ....[F4]

Executes the import operation.
If the destination pattern or sample voice already contains data the "Are You Sure? No[F2]/Yes[F3]" confirmation prompt will appear.
Press [F3] if it is OK to overwrite the corresponding memory contents.
Press [F2] to abort the load operation and return to the status of the RS7000 prior to pressing the [F1] button.

NOTE

When an RM1x PATT file is imported all data originally in the destination style number will be erased.



[3] SCSI Setup Page

Provides access to a number of SCSI settings.
Selects the disk and partition for save and load operation.

SCSI Setup Procedure

1. Press [LOAD] 3 times from the PATTERN Play or Patch mode to go to the SCSI Setup page.
2. Use [Knob 4] (SELF ID) to set the RS7000 SCSI ID number.

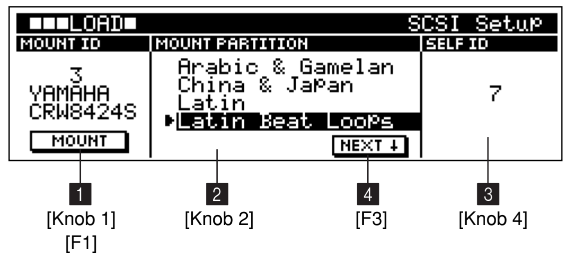
NOTE

The new SCSI ID number will take effect the next time the RS7000 power is turned on (i.e. the system is re-booted). Be sure to restart the RS7000 (turn the power off and on again) after changing the SCSI ID number.

3. Use [Knob 1] (MOUNT ID) the select the SCSI ID number of the disk to be mounted, then press [F1] to mount the selected device.
4. Use [Knob 2] (MOUNT PARTITION) to select the partition to be mounted.
   16 partitions are displayed in the list.
   Press [F3] (NEXT) to the next 16 partitions. Press [F3] (PREV) back to the previous 16 partitions.
5. Press [EXIT] 3 times to return to the PATTERN Play or Patch mode.

Display Parameters

[PATTERN] → [LOAD] × 3



1 MOUNT ID ....[Knob 1], [F1]

[Settings]
0 ~ 7 (the current SCSI SELF ID number cannot be selected)

Selects and mounts the SCSI device (disk) which will be used for file transfer.
Use [Knob 1] to select the SCSI ID number, then press [F1] to mount the selected device. Once the selected device is mounted it will be possible to select a partition on the device.

2 MOUNT PARTITION .... [Knob 2]

Selects a partition for file transfer operations from among the partitions available on the mounted disk.

3 SCSI SELF ID .... [Knob 4]

[Settings] 0 ~ 7 (the current MOUNT ID cannot be selected)

Sets the SCSI ID number of the RS7000.
SELF ID changes take effect after the RS7000 has been restarted.

4 NEXT/PREV .... [F3]

16 partitions are displayed in the partition list.
Press [F3] (NEXT) to scroll to the next 16 partitions. Or press [F3] (PREV) to scroll back to the previous 16 partitions.

[4] SCSI Communication Page

About the YAMAHA TWE Wave Editor

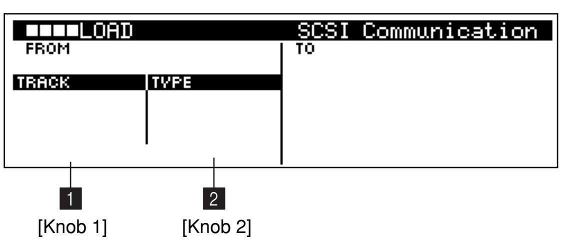
The Yamaha TWE Wave Editor can be used to edit RS7000 wave data on a personal computer.

TWE Communication Page Procedure

1. Connect the RS7000 to a personal computer via the SCSI connector.
2. Launch TWE on the personal computer.
3. In the PATTERN Play mode select the pattern to which the sample you want to edit is assigned.
4. From the PATTERN Play or Patch mode press [LOAD] 4 times to go to the SCSI Communication page.
5. Using TWE, transfer the sample to be edited to the personal computer.
   Copy protected samples are invisible from TWE. Refer to "Notes on musical copyright" on page 21.
6. Edit the wave data using TWE.
7. Use [Knob 1] (TRACK) to select the track to which the edited wave data is to be returned.
8. Use [Knob 2] (TYPE) to select the sample voice type.
9. Using TWE, transfer the edited wave data back to the RS7000.
10. Press [EXIT] 4 times to return to the PATTERN Play or Patch mode.

Display Parameters

[PATTERN] → [LOAD] × 4



1 TRACK .... [Knob 1]

[Settings] 01 ~ 16

Selects the track to which the edited wave data from TWE will be returned.

2 TYPE .... [Knob 2]

[Settings] PITCHED, KIT: C-2 ~ G8

Selects the type of sample data to be received from TWE.
The available settings will depend on the type of sample voice assigned to the selected track.

● **When a pitched sample is assigned to the selected track.**
Two choices will be available: PITCHED SAMPLE and SAMPLE KIT. When SAMPLE KIT is selected you will also need to specify a note name.
"REPLACE" will appear on the display, and the existing data will be overwritten when the data is imported.

● **When a sample kit is assigned to the selected track.**
The sample voice type cannot be changed. You will need to specify the note name to which the data will be loaded.
If the specified note name is empty, "EMPTY" will appear on the display.
If a sample voice is assigned to the specified note name, "USED" will appear on the display and the data cannot be imported.

● **When a sample voice is assigned to the selected track.**
Two choices will be available: PITCHED SAMPLE and SAMPLE KIT. When SAMPLE KIT is selected you will also need to specify a note name.
"EMPTY" will appear on the display, and the number of the newly created sample voice will be displayed.

14. Pattern & Phrase Editing — The Pattern Jobs

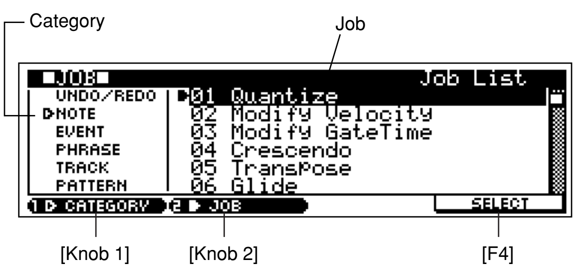
The RS7000's 37 pattern "jobs" can be used to edit and modify pattern and phrase data in a number of ways.

● Job List

[Undo/Redo Category]		
00 Undo/Redo	Undo job cancels the changes made by the most recent operation, restoring the data to its previous state. Redo job cancel Undo and restores the changes.	P.134
[Note Category]		
01 Quantize	Adjusts the timing of note events by moving them closer to the nearest exact beat.	P.135
02 Modify Velocity	Alters the velocity values of the specified range of notes.	P.136
03 Modify Gate Time	Alters the gate times of the specified range of notes.	P.137
04 Crescendo	Creates a crescendo or decrescendo over the specified range of notes.	P.138
05 Transpose	Transposes notes in the specified range in semitone increments.	P.138
06 Glide	This job is ideal for producing guitar-like slide or note-bending effects.	P.138
07 Create Roll	This job is ideal for creating fast drum-like rolls.	P.139
08 Chord Sort	This job sorts chord events by order of pitch.	P.139
09 Chord Separate	Use this job after the Chord Sort job, above, to create guitar-like upstroke or down-stroke effects.	P.140
[Event Category]		
10 Shift Clock	Shifts all data events in the specified range forward or backward by the specified number of clocks.	P.140
11 Copy Event	Copies all data from a specified source range to a specified destination location.	P.141
12 Erase Event	Clears all specified events from the specified range.	P.141
13 Extract Event	This job moves all instances of specified event data from a specified range of a phrase to the same range in a different phrase.	P.142
14 Create Continuous Data	Creates continuous pitch bend or control change data over the specified range.	P.142
15 Thin Out	Thins out the specified type of continuous data in the specified range to save memory space.	P.143
16 Modify Control Data	Changes the values of a specified type of control change data in the specified range.	P.143
17 Beat Stretch	This job performs time-expansion or compression over the selected range.	P.144
[Phrase Category]		
18 Copy Phrase	Copies a selected phrase to the designated destination phrase.	P.144
19 Exchange Phrase	Exchanges the contents of two specified phrases.	P.145
20 Mix Phrase	This job mixes all data from two selected user phrases — "a" and "b" — and places the result in phrase "b".	P.145
21 Append Phrase	Appends one phrase to the end of another to create one longer phrase.	P.146
22 Split Phrase	This job splits a selected phrase into two separate phrases.	P.146
23 Get Phrase	Copies a segment of sequence-track data from a song into the designated destination phrase.	P.147
24 Put Phrase	Copies a selected user phrase into a specified area of a selected song.	P.147
25 Clear Phrase	This job deletes all data from the selected phrase.	P.148
26 Phrase Name	Use this job to enter or change a phrase name.	P.148

[Track Category]		
27 Copy Track	Copies all data of the selected type from specified source track to specified destination track.	P.148
28 Exchange Track	Exchanges the content of two tracks.	P.149
29 Clear Track	This job deletes all data of the selected type from the selected pattern track, or from all pattern tracks.	P.150
30 Normalize Play Effect	This job rewrites the data in the selected track so that it incorporates the current Play FX/Groove/MIDI Delay settings.	P.150
31 Divide Drum Track	Separates the note events in a drum phrase and places the notes corresponding to different drum instruments in separate tracks.	P.150
[Pattern Category]		
32 Copy Pattern	This job copies all data from a selected source pattern to a selected destination pattern.	P.151
33 Append Pattern	Appends one pattern to the end of another to create one longer pattern.	P.151
34 Split Pattern	Splits a selected pattern into two patterns.	P.152
35 Clear Pattern	This job deletes all data from the selected pattern, or from all patterns.	P.153
36 Style Name	Use this job to enter or change a style name.	P.153

PATTERN Job Procedure



1. Press the [JOB] button from the PATTERN Play or Patch mode to go to the job list.
2. Use [Knob 1] (CATEGORY) and [Knob 2] (JOB) to move the cursor to the desired job.
3. Press [F4] (SELECT) to jump to the selected job page.
4. Use [Knob 2] (CURSOR ← →) to move the cursor to the various parameters, and [Knob 3] (VALUE -/+) or [SHIFT]+[F3] → Numeric Keypad to set the parameter values as required.
5. When the parameters are set press [F4] (DO!) to execute the job.
   "Completed." will appear when the job is done.
6. Press [EXIT] twice to go back to the PATTERN Play or Patch mode.

> **NOTE**
> If the memory protect function is ON, "Memory Protected" will appear on the display when the [JOB] button is pressed and it will not be possible to access the job list. In this case go to the UTILITY mode System page (Page 257) and turn MEMORY PROTECT "OFF".

Precautions

- If there is no data in the specified range "No Data" will appear on the display and the job can not be executed.
- If you make a mistake or want to compare the sound of the data before and after executing a job, use the "00 Undo/Redo" function (Page 134).
- The job application range is specified in measures and beats as follows:

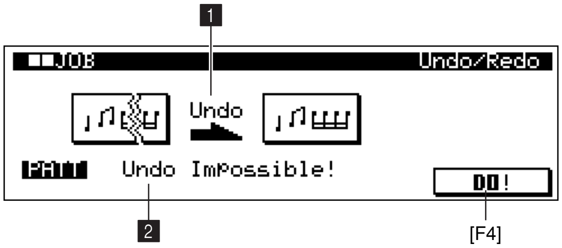
  If the range is 001:1:000 ~ 004:1:000, the job will effect data from the 1st beat of the 1st measure up to the 4th (last) beat of the 3rd measure.

- The specifiable beat range will depend on the meter. 1 ~ 4 can be specified if the meter is 4/4, 1 ~ 8 can be specified if the meter is 8/4, etc.

00 Undo/Redo

The Undo job cancels the changes made by the most recent operation (job, edit, recording), restoring the data to its previous state. The Redo job cancel Undo and restores the changes.
Undo/Redo can also be executed in the Play screen etc. by pressing [SHIFT]+[JOB].

> **NOTE**
> Undo/Redo does not work with sample voice operations.



1 Undo/Redo Indication

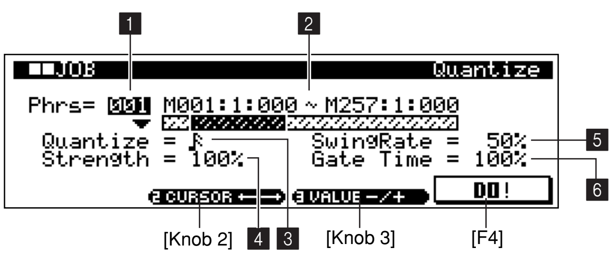
"Undo" or "Redo" appears on the display to indicate the job that is currently available. Undo and Redo are selected alternately.

2 Undo/Redo target

Identifies the operation currently available for undoing or redoing.
"Undo Impossible" will appears when Undo/Redo cannot be executed.

01 Quantize

Quantization is the process of adjusting the timing of note events by moving them closer to the nearest exact beat. You can use this feature, for example, to improve the timing of a performance recorded in real time.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which quantization is applied.

3 Quantize Value

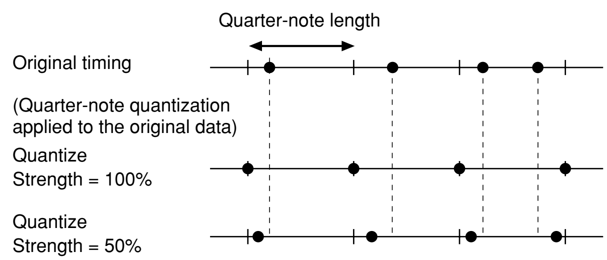
[Settings] 32nd-note 𝅘𝅥𝅰
16th-note triplet 𝅘𝅥𝅯3, 16th-note 𝅘𝅥𝅯
8th-note triplet ♪3, 8th-note ♪
Quarter-note triplet ♩3, Quarter-note ♩
16th-note and 16th-note triplet 𝅘𝅥𝅯+3
8th-note and 8th-note triplet ♪+3

Selects the quantize value (note timing) to which the note data will be aligned.

4 Strength

[Settings] 000% ~ 100%

The Strength value sets the "strength" by which note events are pulled toward the nearest quantize beats.
A setting of 100% produces exact timing. A setting of 0% results in no quantization.



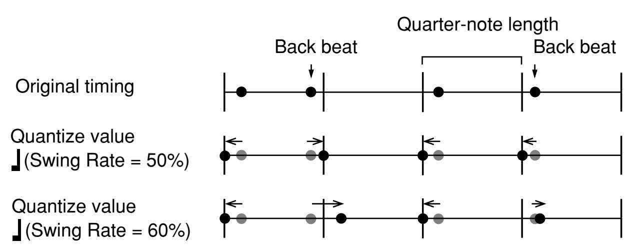
5 SwingRate

[Settings]

If quantize value is ♩, ♪, 𝅘𝅥𝅯, or 𝅘𝅥𝅰:
..50% ~ 75%
If quantize value is ♩3, ♪3, or 𝅘𝅥𝅯3:
..66% ~ 83%
If quantize value is ♪+3 or 𝅘𝅥𝅯+3:
..50% ~ 66%

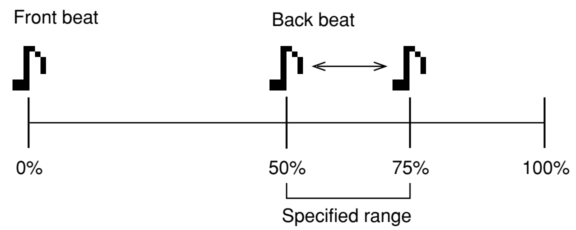
Delays notes on even-numbered beats (the back-beats) to produce a swing feel.

For example, if the meter is 4/4 and the quantize value is quarter notes, the 2nd and 4th beats of the measure will be delayed.
When a triplet quantize value is used, the last note of each triplet is delayed.
When the quantize value is ♪+3 or 𝅘𝅥𝅯+3, even-numbered ♪ or 𝅘𝅥𝅯 beats will be delayed.



The Swing Rate range depends on the selected quantize value.

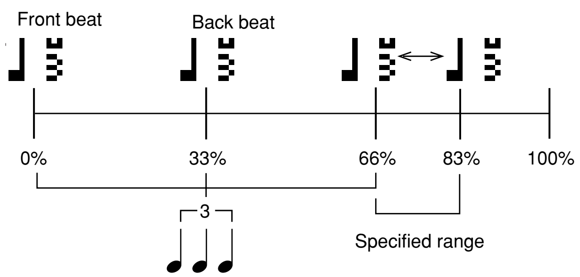
If the quantize value is ♩, ♪, 𝅘𝅥𝅯, or 𝅘𝅥𝅰



A setting of 100% is equivalent to twice the length of the specified quantize value.
A setting of 50% produces exact timing and therefore no swing feel. Settings above 51% increase the amount of swing, with 75% being equivalent to a dotted-note delay.

[Settings] 50 ~ 75% (50% is the initial value)

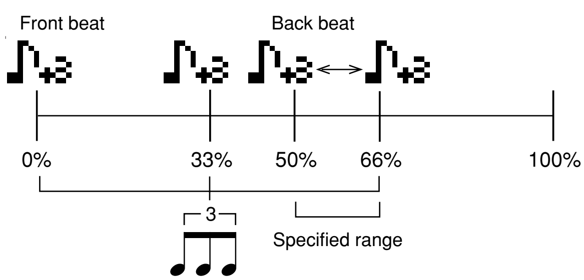
If the quantize value is ♩3, ♪3, or 𝅘𝅥𝅯3



A setting of 100% is equivalent to three times the length of the specified quantize value. A setting of 66% produces exact timing and therefore no swing feel. Settings above 67% increase the amount of swing, with 83% being equivalent to a sextuplet delay.

[Settings] 66% ~ 83% (66% is the initial value)

If the quantize value is ♪+3 or 𝅘𝅥𝅯+3



A setting of 100% is equivalent to twice the length of a ♪ or 𝅘𝅥𝅯 note. A setting of 50% produces exact timing and therefore no swing feel. Settings above 51% increase the amount of swing, with 66% being equivalent to a triplet delay.

[Settings] 50% ~ 66% (50% is the initial value)

> **NOTE**
> If a swing value other than 100% results in notes being positioned after other non-swing notes, the latter notes are delayed accordingly.

6 Swing Gate Time

[Settings] 000% ~ 200%

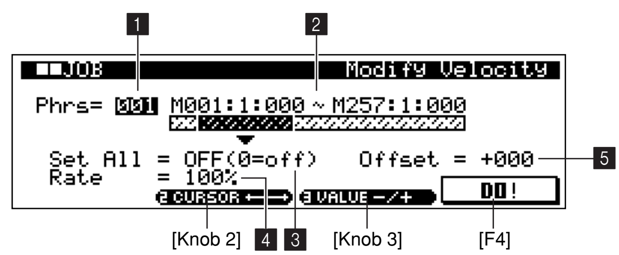
Adjusts the gate time (the length of time a note sounds) of the even-numbered back-beat notes to enhance the swing feel.
When a triplet quantize value is used, the gate time of the last note of each triplet is adjusted.
When the quantize value is ♪+3 or 𝅘𝅥𝅯+3, the gate time of the even-numbered ♪ or 𝅘𝅥𝅯 beats will be adjusted.
A setting of 100% retains the original gate time.
If the resultant gate time 0 or less it will be set to 1.

02 Modify Velocity

This job alters the velocity values of the specified range of notes. Velocity changes are calculated as follows:

Adjusted velocity =
(original velocity × Rate) + Offset

If the result is 0 or less, the value is set to 1. If the result is higher than 127, the value is set to 127.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job is applied.

3 Set All

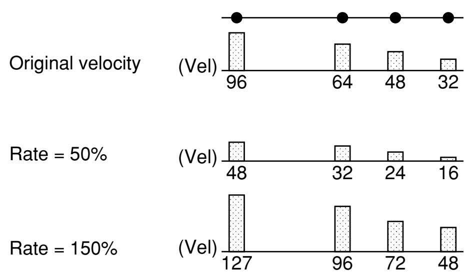
[Settings] Off (0), 001 ~ 127

Sets the velocities of all target notes to the same fixed value (1 to 127).
When set to “OFF” the Set All parameter has no effect. When set to a value other than “OFF” the Rate and Offset parameters are unavailable and appear as “***” on the display.

4 Rate

[Settings] 000% ~ 200%, ***

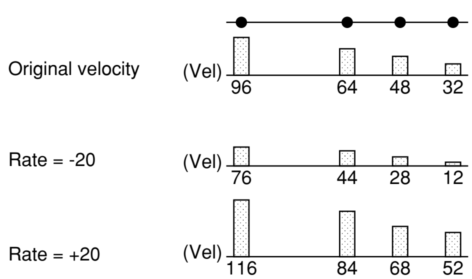
Specifies the percentage by which the target notes will be shifted from their original velocities.
Settings below 100% reduce the velocities, and settings above 100% increase the velocities proportionately. When the Set All parameter is not "OFF" this parameter appears as "***" and cannot be changed.



5 Offset

[Settings] -127 ~ +127, ***

Adds a fixed value to the Rate-adjusted velocity values.
A setting of 0 produces no change. Settings below 0 reduce the velocities, and settings above 0 increase the velocities. When the Set All parameter is not "OFF" this parameter appears as "***" and cannot be changed.

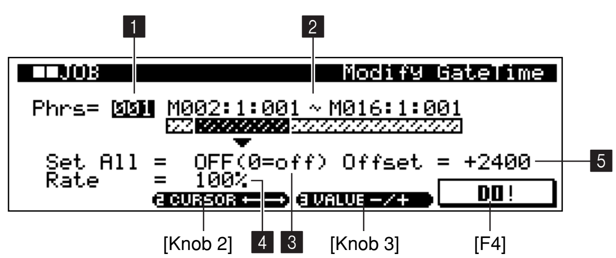


03 Modify Gate Time

This job alters the gate times of the specified range of notes.
Gate time changes are calculated as follows:

Adjusted gate time =
(original gate time × Rate) + Offset

If the result is 0 or less, the value is set to 1.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job is applied.

3 Set All

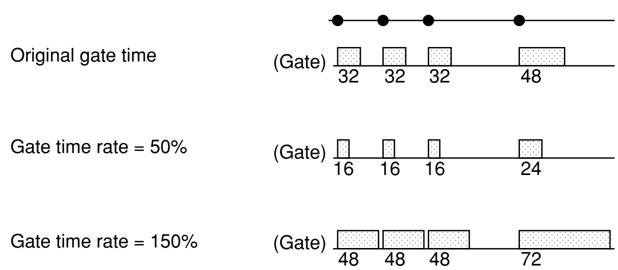
[Settings] Off (0), 0001 ~ 9999

Sets the gate times of all target notes to the same fixed value. When set to "OFF" the Set All parameter has no effect. When set to a value other than "OFF" the Rate and Offset parameters are unavailable and appear as "***" on the display.

4 Rate

[Settings] 000% ~ 200%, ***

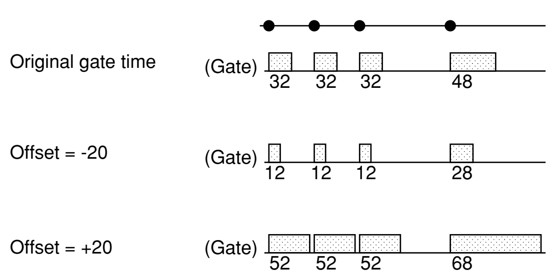
Specifies the percentage by which the gate time of the target notes will be changed.
Settings below 100% shorten the notes, and settings above 100% lengthen the notes proportionately. When the Set All parameter is not "OFF" this parameter appears as "***" and cannot be changed.



5 Offset

[Settings] -9999 ~ +9999, ****

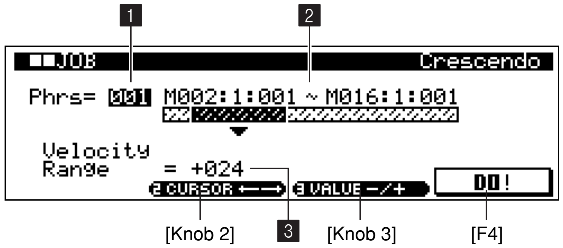
Adds a fixed value to the Rate-adjusted gate time values.
A setting of 0 produces no change. Settings below 0 shorten the gate time, and settings above 0 lengthen the gate time. When the Set All parameter is not "OFF" this parameter appears as "****" and cannot be changed.



2 The Pattern Mode

04 Crescendo

Creates a crescendo or decrescendo over the specified range of notes.



1 Phrase

[Settings] 001 ~ 256

2 Range

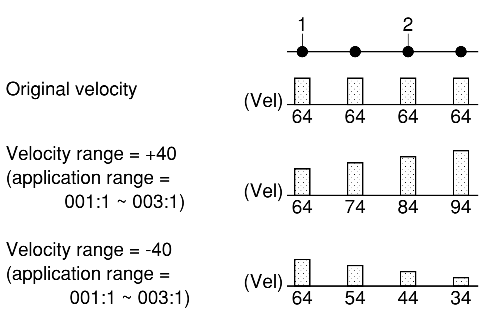
[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job is applied.

3 Velocity Range

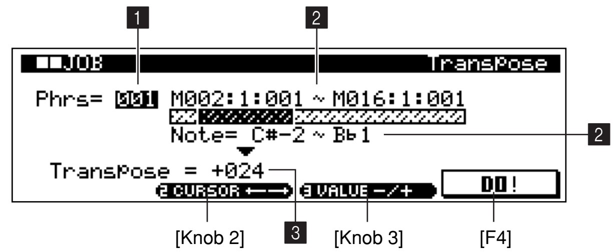
[Settings] -127 ~ +127

Sets the intensity of the crescendo or decrescendo.
The velocity values of the notes in the specified range are gradually increased or decreased starting at the first note in the range. The velocity of the last note in the range becomes the original velocity of the note + the Velocity Range value. If the resultant velocity is outside the 1 ~ 127 range it is set to 1 or 127 accordingly. Settings greater than 0 produce a crescendo, and settings less than 0 produce a decrescendo. A setting of 0 produces no effect.



05 Transpose

Transposes notes in the specified range in semitone increments.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000
Note C-2 ~ G8

Sets the range of measures/beats/clocks and note pitches over which the job is applied.

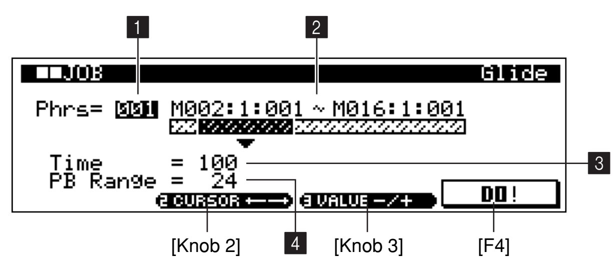
3 Transpose

[Settings] -127 ~ +127

Transposes notes in the specified range in semitone increments. A setting of +12 transposes up one octave, while a setting of -12 transposes down an octave. A setting of 0 produces no change.

06 Glide

Replaces all notes following the first note in the specified segment with pitch bend data, producing smooth glides from note to note.
This job is ideal for producing guitar-like slide or note-bending effects.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job is applied.

3 Time

[Settings] 000 ~ 100

Specifies the length of the glide. Higher values produce a longer glide between notes.

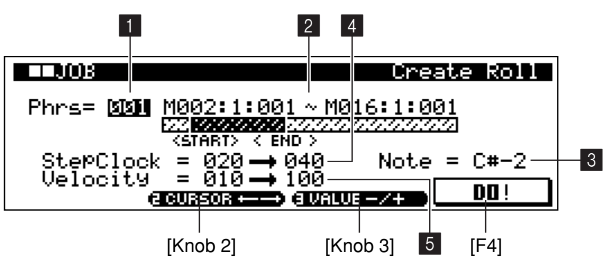
4 PB Range

[Settings] 01 ~ 24

Specifies the maximum pitch bend range to be applied by the glide job in semitone increments.

07 Create Roll

Creates a series of repeated notes in the specified range with the specified continuous changes in clock step and velocity.
This job is ideal for creating fast drum-like rolls.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 256:16:479

Sets the range of measures/beats/clocks over which the job is applied.

3 Note

[Settings] C-2 ~ G8

Sets the note (the instrument in drum kit voices) to be rolled. The note can also be entered via the RS7000 keyboard.

4 Step Clock

[Settings] Start 001 ~ 999
End 001 ~ 999

Specifies the size of the step (i.e. the number of clocks) between each note in the roll.
Both the starting and ending clock values can be specified, making it easy to create rolls in which the step size varies from note to note.

5 Velocity

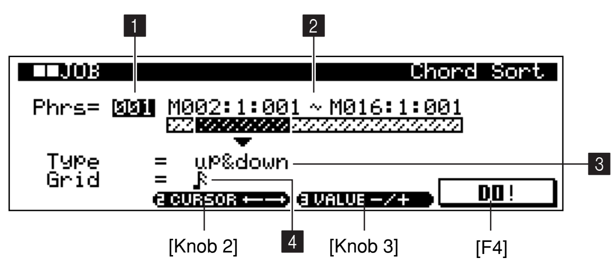
[Settings] Start 001 ~ 127
End 001 ~ 127

Specifies the velocity of the notes in the roll.
Both the starting and ending velocity values can be specified, making it easy to create rolls in which the velocity increases or decreases.

08 Chord Sort

This job sorts chord events (simultaneous note events) by order of pitch.

> **NOTE**
> - The sort affects the order of the notes in the EDIT page listing (Page 154), but does not change the timing of the notes.
> - When used to pre-process chords before using the Chord Separate job (see next page), Chord Sort can be used to simulate the “stroke” sound of guitars and similar instruments.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job is applied.

3 Type

[Settings] UP, DOWN, UP&DOWN, DOWN&UP
If UP the notes are sorted in ascending order.
If DOWN the notes are sorted in descending order.
UP&DOWN sorts chord notes on downbeats in ascending order and chord notes on up beats in descending order, based on the grid setting, below.
DOWN&UP sorts chord notes on downbeats in descending order and chord notes on up beats in ascending order

Determines how the chord note data is sorted.

> **NOTE**
> Guitar downstrokes are played from the 6th (lowest) string to the 1st (highest) string, while upstrokes are played from the 1st (highest) string to the 6th (lowest) string.

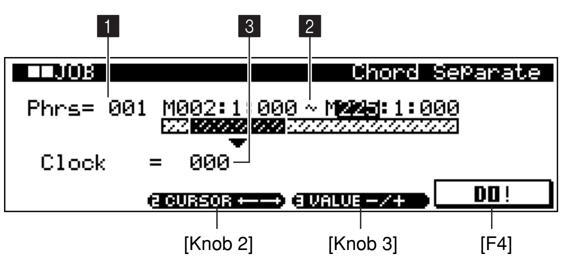
4 Grid

[Settings] 32nd-note, 16th-note triplet, 16th-note, 8th-note triplet, 8th-note, Quarter-note triplet, Quarter note

Specifies the type of note that will serve as the basis for the Chord Sort job.

09 Chord Separate

This job slightly separates notes in chords within the specified range, inserting a specified number of clocks between each note. Use this job after the Chord Sort job, above, to create guitar-like upstroke or downstroke effects.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock 001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job is applied.

3 Clock

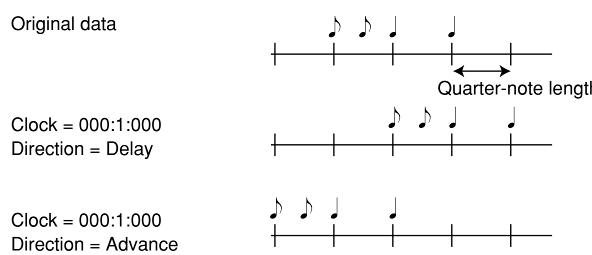
[Settings] 000 ~ 999

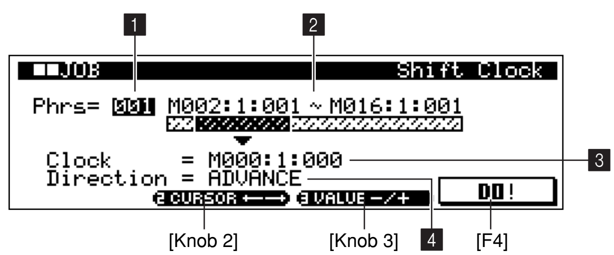
Sets the number of clock cycles inserted between adjacent chord notes.

> **NOTE**
> - Note that there are 480 clock cycles per quarter note.
> - It is not possible to separate chords so that they cross the next measure boundary or chord.

10 Shift Clock

Shifts all data events in the specified range forward or backward by the specified number of clocks.





1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock 001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job is applied.

3 Clock

[Settings] Measure:Beat:Clock 000:0:000 ~ 255:15:479

Sets the amount by which the data will be delayed or advanced in measures, beats, and clocks.

NOTE

- Note that there are 480 clock cycles per quarter note.
- If the Clock Shift job results in data being moved beyond the beginning of the pattern, the data will be grouped at the beginning of the pattern.
- If the Clock Shift job results in data being moved beyond the end of the pattern, the data which falls beyond the end of the pattern will be erased.

4 Direction

[Settings] ADVANCE, DELAY

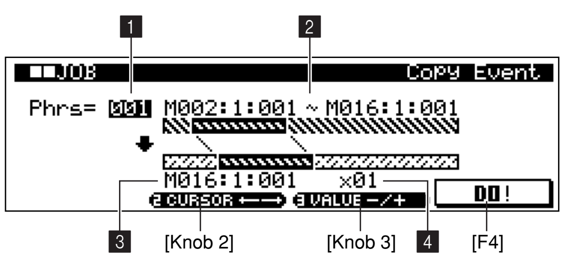
Specifies the direction in which the data will be shifted. ADVANCE moves the data toward the beginning of the sequence, while DELAY shifts the data toward the end of the sequence.

11 Copy Event

This job copies all data from a specified source range to a specified destination location.

⚠ CAUTION

When Copy Event is executed any data already existing at the Destination location will be overwritten.



1 Phrase

[Settings] 001 ~ 256

2 Source Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks from which the data will be copied.

3 Destination Location

[Settings] Measure:Beat:Clock
001:1:000 ~ 256:16:479

Specifies the location to which the data will be copied.

4 Times

[Settings] 01 ~ 99

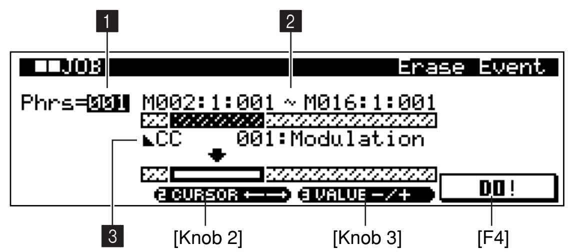
Specifies the number of times the data is copied.

12 Erase Event

This job clears all specified events from the specified range, effectively producing a segment of silence.

NOTE

When this job is applied to a phrase which uses sample voices, the note events which trigger the sample voice will be erased so that the sample voice does not sound, but the sample voice itself is not erased.



1 Phrase

[Settings] 001 ~ 256

2 Source Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job will be applied.

3 Event

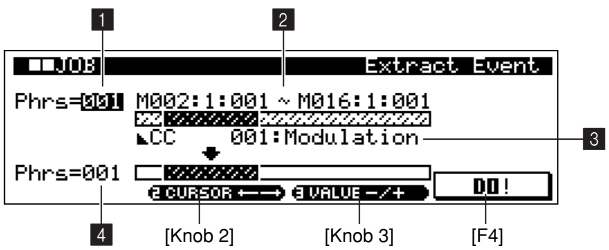
[Settings]
Note (Note events)
PC (Program change)
PB (Pitch bend)
CC (Control change):000 ~ 127, ALL
CAT (Channel aftertouch)
PAT (Polyphonic aftertouch)
EXC (System exclusive)
ALL (All events)

Sets the event type to be cleared erased.
All events are cleared when ALL is selected.
Individual control change numbers can be specified when erasing control change events.

13 Extract Event

This job moves all instances of specified event data from a specified range of a phrase to the same range in a different phrase.

> **NOTE**
> If this job is applied to a phrase that uses a sample voice, the note data that plays the sample voice in the specified range will be moved (when the event type is "Note"), and the sample voice will no longer sound. When you want a sample voice to sound in the destination phrase, set the voice used by that phrase to Sample voice in the MIXER page (Page 93).



1 Source Phrase

[Settings] 001 ~ 256

Selects the phrase from which events are to be extracted.

2 Source Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks from which the data will be extracted.

3 Event

[Settings]

Event Type	Range
Note	C-2 ~ G8, ALL
PC (Program change)	—
PB (Pitch bend)	—
CC (Control change)	000 ~ 127, ALL
CAT (Channel aftertouch)	—
PAT (Polyphonic aftertouch)	—
EXC (System exclusive)	—

Selects the event type to be extracted.
Specific note and control change numbers can also be specified as required.

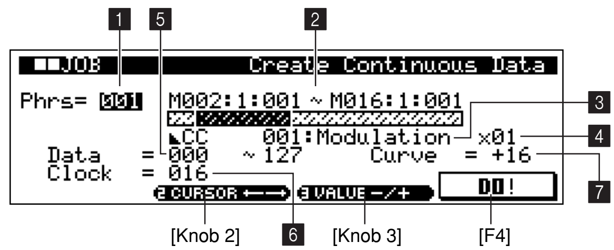
4 Destination Phrase

[Settings] 001 ~ 256

Selects the destination phrase.

14 Create Continuous Data

Creates continuous pitch bend or control change data over the specified range.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job will be applied.

3 Event Type

[Settings] PB (Pitch bend)
CC (Control change):000 ~ 127
CAT (Channel aftertouch)
EXC (System exclusive)

Selects the event type to be created.

4 Times

[Settings] 01 ~ 99

Specifies the number of times the data creation is to be repeated.
For example, if data is created in the range M001:1:000 ~ M003:1:000 and the Times parameter is set to 03, the same data will be created at M003:1:000 ~ M005:1:000 and M005:1:000 ~ M007:1:000.
Using this job it is possible to insert continuous volume or filter cutoff variations to create tremolo or wow effects.

5 Data

[Settings] 000 ~ 127
(-8192 ~ +8191 for pitch bend data)

Specifies the lower and upper limits for the data range to be created. The left value is the lower limit, and the right value is the upper limit.

6 Clock

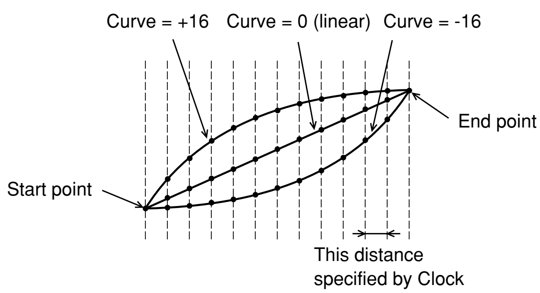
[Settings] 001 ~ 999

Specifies the number of clocks to be inserted between each created event.

7 Curve

[Settings] -16 ~ +16

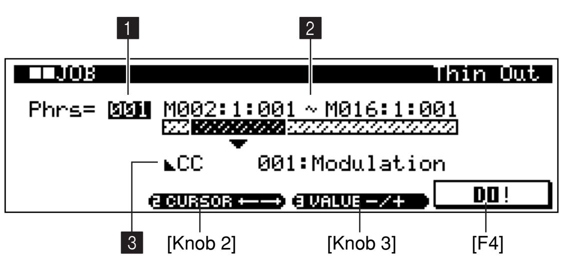
Specifies the “curve” of the continuous data.
Refer to the graph below for approximate curve shapes.



15 Thin Out

Thins out the specified type of continuous data in the specified range to save memory space.

> **NOTE**
> The Thin Out job will not work on continuous data that has a clock interval of greater than 60 clocks per event.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job will be applied.

3 Event Type

[Settings] PB (Pitch bend)
CC (Control change):000 ~ 127, ALL
CAT (Channel aftertouch)
PAT (Polyphonic aftertouch)

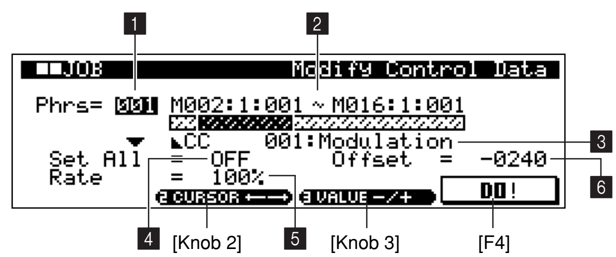
Selects the event type to be thinned.

16 Modify Control Data

Changes the values of a specified type of control change data — pitch bend, control change, aftertouch, etc. — in the specified range.
The data value is calculated as follows.

Value = original data × Rate + Offset.

If the resultant value exceeds the allowable range it will be set to the maximum or minimum value.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job will be applied.

3 Event Type

[Settings] PB (Pitch bend)
CC (Control change):000 ~ 127, ALL
CAT (Channel aftertouch)
PAT (Polyphonic aftertouch)

Selects the event type to be modified.

4 Set All

[Settings] Off (0), 000 ~ 127
(-8192 ~ +8191 for pitch bend)

Sets all target events to the same fixed value.
When set to “OFF” the Set All parameter has no effect. When set to a value other than “OFF” the Rate and Offset parameters are unavailable and appear as “***” on the display.

5 Rate

[Settings] 000% ~ 200%, *

Specifies the percentage by which the target events will be shifted from their original values.
When the Set All parameter is not “OFF” this parameter appears as “***” and cannot be changed.

6 Offset

[Settings] -127 ~ +127, ***
(-8192 ~ +8191 for pitch bend, *)**

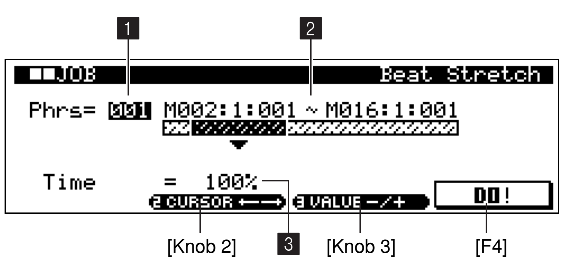
Adds a fixed value to the Rate-adjusted event values.
When the Set All parameter is not “OFF” this parameter appears as “***” and cannot be changed.

17 Beat Stretch

This job performs time expansion or compression over the selected range. All events in the specified range - including note step time, gate time, all event locations, etc., - are expanded or compressed.

NOTE

Only MIDI data is affected by this job. Sample voices are not expanded or compressed. However, for samples recorded using the SLICE+SEQ feature, the Beat Stretch job expands or compresses the timing of the note data, step times, and gate times that control playback of the sliced samples. The sample voice itself is not affected.



1 Phrase

[Settings] 001 ~ 256

2 Range

[Settings] Measure:Beat:Clock
001:1:000 ~ 257:1:000

Sets the range of measures/beats/clocks over which the job will be applied.

3 Time

[Settings] 025% ~ 400%

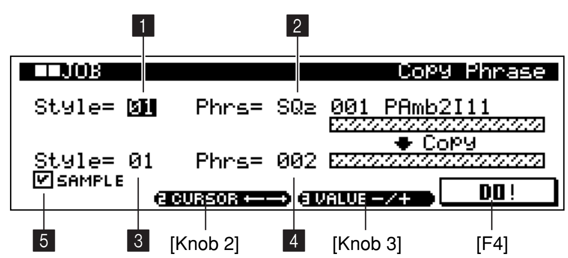
Sets the amount of time expansion or compression as a percentage.
Settings higher than 100% produce expansion, and settings below 100% produce compression.

18 Copy Phrase

Copies a selected phrase to the designated destination phrase.

CAUTION

Any previous data in the copy destination will be overwritten.



1 Source style

[Settings] 01 ~ 64

Specifies the style containing the phrase to be copied.

2 Source phrase

[Settings]
Phrase Category
US (User Phrase)
For the preset phrase categories refer to “Appendix”, page 271.
Phrase Number
001 ~ (depends on phrase category)

Selects the phrase to be copied.

3 Destination style

[Settings] 01 ~ 64

Specifies the destination style.

4 Destination phrase

[Settings] 001 ~ 256

Specifies the destination phrase.

5 Sample

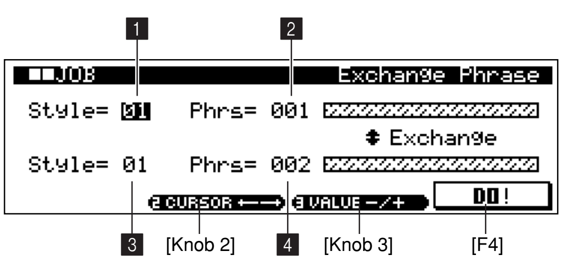
When the checkbox is checked sample voices used by the source phrase are copied to the destination style as local sample voices, and are assigned to destination phrase.
This parameter has no effect when no sample voice is used by the source phrase.

> **NOTE**
> - When there is no memory available in the destination style for local sample voice data, "Too Many Load Sample Voices" will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
> - Undo/Redo (Page 134) can be used after a sample voice copy operation, but will not apply to the sample voice.
> - When the "5. Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Copy Phrase job.

19 Exchange Phrase

Exchanges the contents of two specified phrases.

> **NOTE**
> This job does not affect sample voices used in the specified phrases.



1 Style, 3 Style

[Settings] 01 ~ 64

Specify the styles containing the phrases to be exchanged.

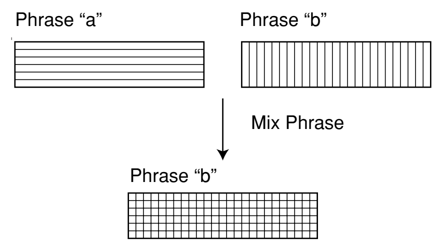
2 Phrase, 4 Phrase

[Settings] 001 ~ 256

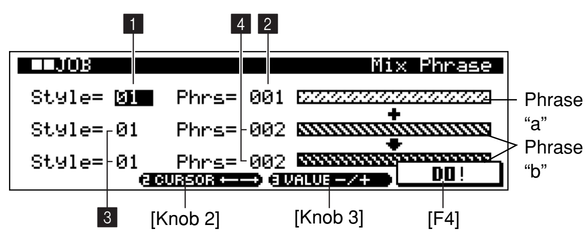
Specify the phrases to be exchanged.

20 Mix Phrase

This job mixes all data from two selected user phrases — "a" and "b" — and places the result in phrase "b".



> **NOTE**
> If this job is applied to phrases which use sample voices, the sample voices will not be copied or mixed.



1 Style a, 2 Phrase a

[Settings] Style a........... 01 ~ 64
Phrase a........ 001 ~ 256

Specify phrase "a".

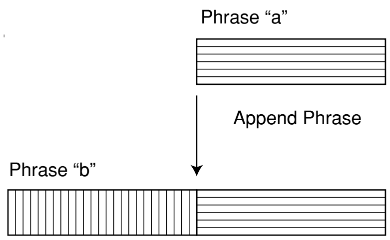
3 Style b, 4 Phrase b

[Settings] Style b........... 01 ~ 64
Phrase b .... 001 ~ 256

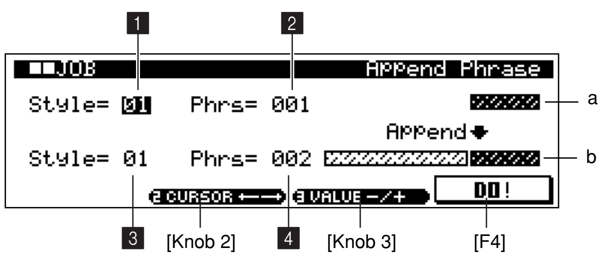
Specify phrase "b".

21 Append Phrase

Appends one phrase to the end of another to create one longer phrase.



> **NOTE**
> If this job is applied to phrases which use sample voices, the sample voices will not be appended.



1 Style a, 2 Phrase a

[Settings] **Style a........... 01 ~ 64**
Phrase a........ 001 ~ 256

Specify phrase "a", which will be appended to Phrase "b".

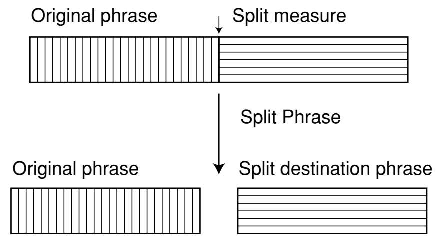
3 Style b, 4 Phrase b

[Settings] **Style b........... 01 ~ 64**
Phrase b........ 001 ~ 256

Specify phrase "b", to which Phrase "a" will be appended.

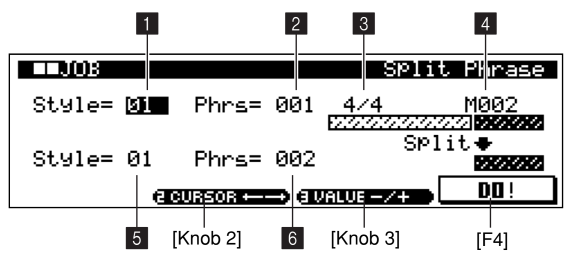
22 Split Phrase

This job splits a selected phrase into two separate phrases.



> **NOTE**
> If this job is applied to phrases which use sample voices, the sample voices will not be split.

> **CAUTION**
> The job overwrites any data already existing in the destination phrase.



1 Source Style, 2 Source Phrase

[Settings] **Style.............. 01 ~ 64**
Phrase........... 001 ~ 256

Specify the source style and phrase. After the Split Phrase operation the section of the phrase before the specified split measure will remain, and the section following the split measure will be moved to the split destination phrase 6.

3 Meter

[Settings]
1/16 ~ 16/16; 1/8 ~ 16/8; 1/4 ~ 8/4

Sets the meter of the split phrase segments after the split operation.
The phrase meter can be changed later.

4 Split Measure

[Settings] 002 ~ source-phrase length (in measures)

Specifies the measure at which the phrase will be split.

5 Split Destination Style, 6 Split Destination Phrase

[Settings] Style .... OFF, 01 ~ 64
Phrase........... OFF, 001 ~ 256

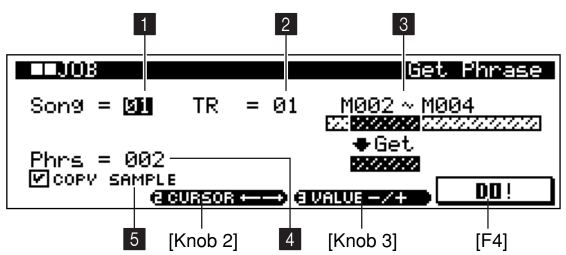
Specify the destination style and phrase. After the Split Phrase operation the section of the phrase before the specified split measure will remain in the source phrase, and the section following the split measure will be moved to the split destination phrase.
If the split destination style or section is OFF, the section after the split measure will be erased.

23 Get Phrase

Copies a segment of sequence-track data from a song into the designated destination phrase.

CAUTION

The job overwrites any data already existing in the destination phrase.



1 Source Song, 2 Source Track

[Settings] Song.............. 01 ~ 20
Track .... 01 ~ 16

Specifies the copy source song and track.

3 Source Range

[Settings] 001 ~ 999

Specifies the range of measures to be copied.

4 Destination Phrase

[Settings] 001 ~ 256

Specifies the destination phrase.

5 Copy Sample

When the checkbox is checked sample voices used by the source track are copied to the destination style as local sample voices, and are assigned to destination phrase.
This parameter has no effect when no sample voice is used by the source track.

NOTE

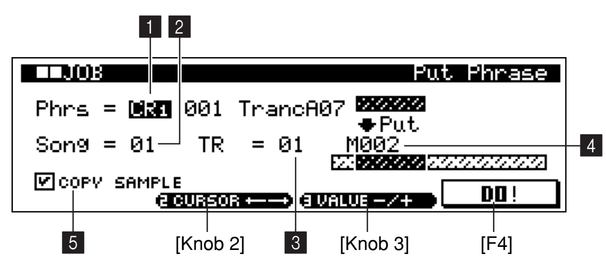
- When there is no memory available in the destination style for local sample voice data, "Too Many Local sample Voices" will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
- Undo/Redo (Page 134) can be used after a sample voice copy operation, but will not apply to the sample voice.
- When the "5. Copy Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Get Phrase job.

24 Put Phrase

Copies a selected user phrase into a specified area of a selected song.

CAUTION

The job overwrites any data already existing in the destination track.



1 Source Phrase

[Settings]

Phrase category	US (User), Preset Phrase, see the Appendix (Page 313) for information on the phrase categories.
Phrase Number	001 ~ 256 (The available range may change depending or the category.)

Specifies the source phrase.

2 Destination Song, 3 Destination Track

[Settings] Song.............. 01 ~ 20
Track............. 01 ~ 16

Specify the destination song and track.

4 Copy Measure

[Settings] 001 ~ 999

Specifies the measure location in the destination track to which the phrase is to be copied. The phrase will be copied without modification, regardless of the meter.

5 Copy Sample

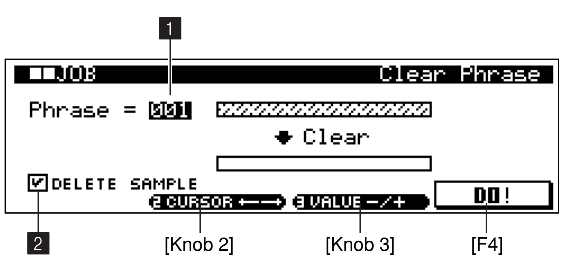
When the checkbox is checked sample voices used by the source phrase are copied to the destination song as local sample voices, and are assigned to destination track.
This parameter has no effect when no sample voice is used by the source phrase.

NOTE

- When there is no memory available in the destination song for local sample voice data, "Too Many Local Voices" will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
- Undo/Redo (Page 134) can be used after a sample voice copy operation, but will not apply to the sample voice.
- When the "4. Copy Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Put Phrase job.

25 Clear Phrase

This job deletes all data from the selected phrase.



1 Phrase

[Settings] 001 ~ 256

2 Delete Sample

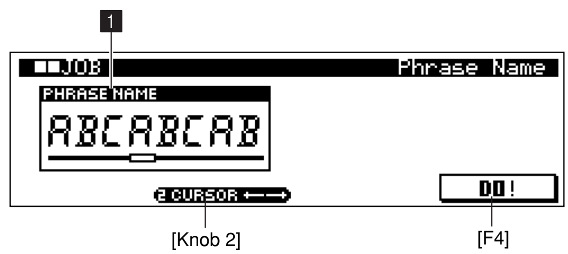
When the checkbox is checked, sample data assigned to the selected phrase will be deleted.
This parameter has no effect when no sample voice is used by the selected phrase.

NOTE

- Undo/Redo (Page 134) can be used after a delete sample operation, but will not apply to the sample voice.
- When the "2. Delete Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Delete Phrase job.

26 Phrase Name

Use this job to enter or change a phrase name. The name can be up to 12 characters long.



1 Phrase Name

Refer to "Chapter 1: Basics", page 67, for details on name entry.

NOTE

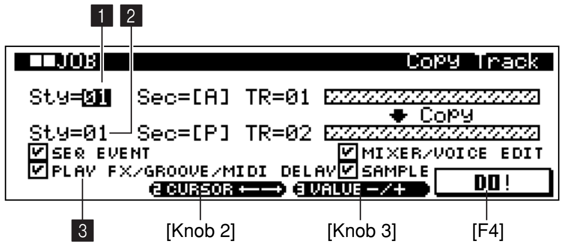
- Phrases cannot be selected from this display. Select the phrase you want to name or rename while in the PATTERN Play mode (Page 75).
- Phrase names cannot be entered for empty phrases.

27 Copy Track

Copies all data of the selected type from specified source track to specified destination track.

⚠ CAUTION

The copy operation overwrites any data previously existing on the destination track.



1 Source Style, Section, and Track

[Settings] Source Style................. 01 ~ 64
Source Section............. A ~ P
Source Track................ 01 ~ 16

These first three settings select the source style, section, and track.

2 Destination Style, Section, and Track

[Settings] Destination Style.......... 01 ~ 64
Destination Section ..... A ~ P
Destination Track......... 01 ~ 16

These three settings select the destination style, section, and track.

3 Data Type

[Settings]

☐ **SEQ EVENT**
All events in the track.

☐ **PLAY FX/GROOVE/MIDI DELAY**
The track's PLAY FX. GROOVE, and MIDI DELAY settings.

☐ **MIXER/VOICE EDIT**
The track's mixer and voice edit settings.

☐ **SAMPLE**
If a sample voice is selected via Voice Select (Page 93) … the selected sample voice.
If a phrase is selected via Voice Select … the sample voice used by the phrase assigned to the source track.

Determine the type(s) of data to be copied. When a checkbox is checked the corresponding data type will be copied.

NOTE

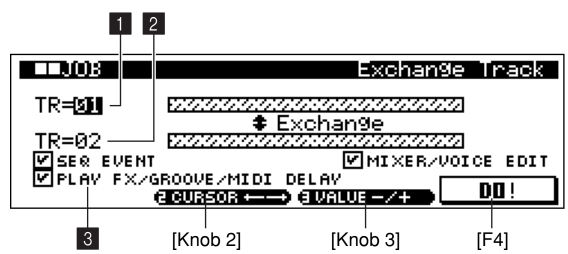
- When there is no memory available in the destination style for local sample voice data, "Too Many Local Sample Voices" will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
- Undo/Redo (Page 134) can be used after a sample voice copy operation, but will not apply to the sample voice.
- When the "Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Copy Track job.

28 Exchange Track

Exchanges the specified type of data between two specified tracks in the current style and section.

NOTE

The style and section cannot be selected via this job. Be sure to select the style and section containing the tracks you want to exchange before accessing this job.



1 Track, 2 Track

[Settings] 01 ~ 16

Specify the two tracks between which data will be exchanged.

3 Data Type

[Settings]

☐ **SEQ EVENT**
All events in the track.

☐ **PLAY FX/GROOVE/MIDI DELAY**
The track's PLAY FX. GROOVE, and MIDI DELAY settings.

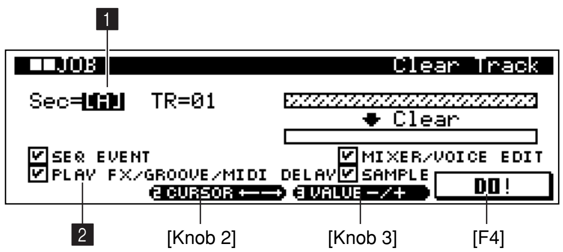
☐ **MIXER/VOICE EDIT**
The track's mixer and voice edit settings.

Determine the type(s) of data to be exchanged. When a checkbox is checked the corresponding data type will be exchanged.

29 Clear Track

This job deletes all data of the selected type from the selected pattern track, or from all pattern tracks.

> **NOTE**
> The style cannot be selected via this job. Be sure to select the style containing the tracks you want to delete before accessing this job.



1 Source Section and Track

[Settings] **Source Section** **A ~ P, ALL**
Source Track **01 ~ 16, ALL**

2 Data Type

[Settings]

☐ **SEQ EVENT**
All events in the track.

☐ **PLAY FX/GROOVE/MIDI DELAY**
The track's PLAY FX. GROOVE, and MIDI DELAY settings.

☐ **MIXER/VOICE EDIT**
The track's mixer and voice edit settings.

☐ **SAMPLE**
The sample voice assigned to the selected track.

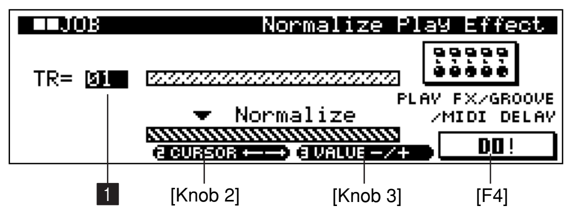
Determine the type(s) of data to be cleared. When a checkbox is checked the corresponding data type will be cleared.

> **NOTE**
> • Undo/Redo (Page 134) can be used after a delete sample operation, but will not apply to the sample voice.
> • When the "Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Clear Track job.

30 Normalize Play Effect

This job rewrites the data in the selected track so that it incorporates the current Play FX/Groove/MIDI Delay settings.

> **NOTE**
> • After the Normalize Play Effect job is executed the PLAY FX, GROOVE, and MIDI DELAY parameters for the track are initialized.
> • The style and section cannot be selected via this job. Be sure to select the style and section containing the tracks you want to normalize before accessing this job.



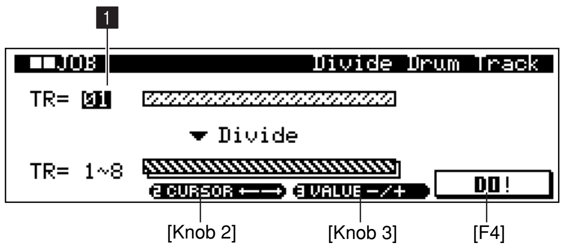
1 Track

[Settings] 01 ~ 16, ALL (All sequence data)

31 Divide Drum Track

Separates the note events in a drum phrase assigned to a specified track, and places the notes corresponding to different drum instruments in separate tracks (tracks 1 through 8).

> **NOTE**
> • This job requires 8 empty user phrases in which to store the separated note data. If the required phrases are unavailable the "Phrase Number Overflow" message will appear and the job will be aborted. If this occurs use Job 25 (Clear Phrase) to delete unused phrases and try again.
> • The style and section cannot be selected via this job. Be sure to select the style and section containing the track you want to divide before accessing this job.
> • The note data is divided and copied to tracks 1 ~ 8 according to the GM-format drum voice note assignments. Voices belonging to the same group — such as the tom-tom voices, for example — are copied to the same track.
> • Since the full-edit and SFX-type drum voices do not comply with the standard GM-format note assignments, these voices will not be divided properly.



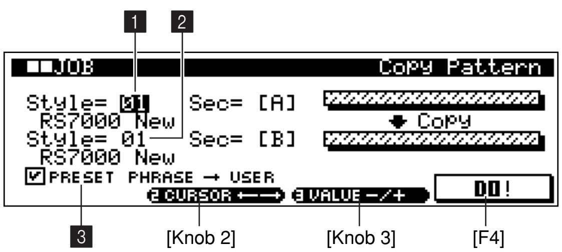
1 Track

[Settings] 01 ~ 16

Specifies the drum track to be divided.

32 Copy Pattern

This job copies all data from a selected source pattern to a selected destination pattern.



1 Source Style and Section

[Settings] Source Style................. 01 ~ 64
Source Section............. A ~ P, ALL

Select the source style and section. If you select ALL for the Source Section, the Destination Section is also automatically set to ALL.

2 Destination Style and Section

[Settings] Destination Style.......... 01 ~ 64
Destination Section ..... A ~ P, ALL

Select the destination style and section. If you select ALL for the Destination Section, the Source Section is also automatically set to ALL.
When the destination style is empty, or the copy source or destination section is set to "ALL", the scene/mute memory contents are also copied.

3 Data Type

[Settings]

☐ **PRESET PHRASE → USER**

If the style data includes preset phrases, these are copied to the user phrase.

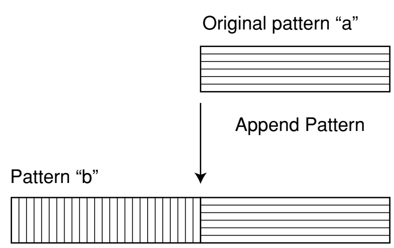
Determine the type(s) of data to be copied. When a checkbox is checked the corresponding data type will be copied.

NOTE

- When there is no memory available in the destination style for local sample voice data, "Too Many Local Voices." will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
- Undo/Redo (Page 134) can be used after a sample voice copy operation, but will not apply to the sample voice.
When the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Copy Pattern job.

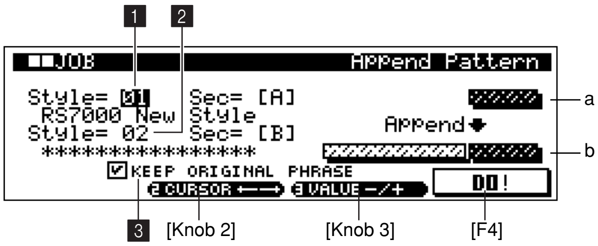
33 Append Pattern

Appends one pattern to the end of another to create one longer pattern.



NOTE

- If this job is applied to patterns which use local sample voices, the sample voices will not be appended.
- If the pattern length becomes greater than 256 measures as a result of the Append Pattern job, an error message will be displayed and the job will be aborted.



1 Source Style a and Section a

[Settings] Style a .... 01 ~ 64
Section a........... A ~ P

Specify pattern "a", which will be appended to pattern "b".

2 Destination Style b and Section b

[Settings] Style b .... 01 ~ 64
Section b........... A ~ P

Specify pattern "b", to which pattern "a" will be appended.

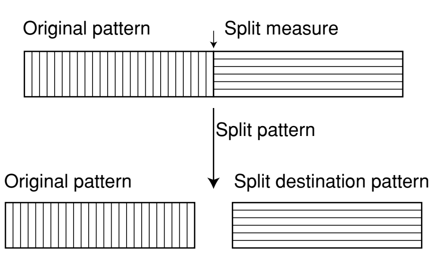
3 Keep Original Phrase

If the checkbox is empty, the phrases that make up pattern "a" are appended to the phrases that make up pattern "b", and the pattern "b" phrases are overwritten.
If the checkbox is checked the pattern "b" phrases are left unaffected and the results of the append operation are written to empty phrases.

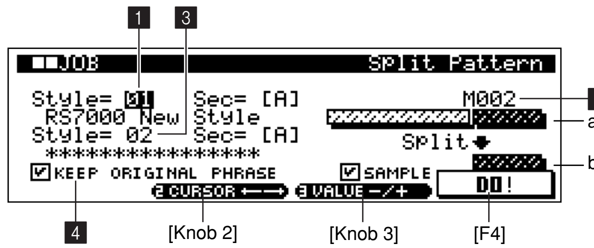
> **NOTE**
> When the KEEP ORIGINAL PHRASE checkbox is checked, this job requires twice the number of empty user phrases as the number of tracks containing data in which to store the appended phrase data. If the required phrases are unavailable the "Phrase Number Overflow" message will appear and the job will be aborted. If this occurs use Job 25 (Clear Phrase) to delete unused phrases and try again.

34 Split Pattern

Splits a selected pattern into two patterns.



> **CAUTION**
> The job overwrites any data already existing in the destination pattern.



1 Source Style and Section

[Settings] Style a .... 01 ~ 64
Section a........... A ~ P

Specify the source style and section. After the Split Pattern operation the section of the pattern before the specified split measure will remain, and the section following the split measure will be moved to the split destination pattern 3.

2 Split Measure

[Settings] 001 ~ source-pattern length (in measures)

Specifies the measure at which the pattern will be split.

3 Split Destination Style and Section

[Settings] Style .... OFF, 01 ~ 64
Section.................. OFF, A ~ P

Specify the destination style and section. After the Split Pattern operation the section of the pattern before the specified split measure will remain in the source pattern, and the section following the split measure will be moved to the split destination pattern.
When the split destination style or section are OFF, the measures following the split measure are erased.
The scene/mute memory data will only be copied when the split destination style is empty or if "☐ SAMPLE" box is checked.

4 Split Data Type

[Settings]

☐ KEEP ORIGINAL PHRASE

If the checkbox is empty, the phrases that make up pattern "a" are appended to the phrases that make up pattern "b", and the pattern "b" phrases are overwritten.
If the checkbox is checked the pattern "b" phrases are left unaffected and the results of the append operation are written to empty phrases.

☐ SAMPLE

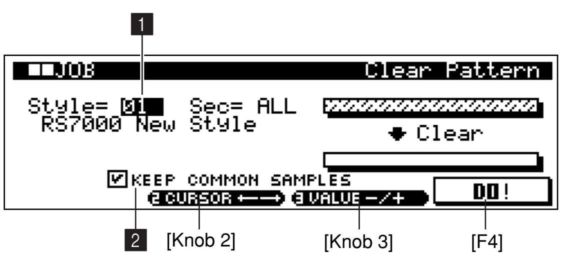
If the checkbox is checked sample voices assigned to each track in the source pattern are copied to the split destination style as local sample voices and are assigned to the corresponding tracks in that pattern.
This checkbox has no effect if no sample voices are assigned to the tracks in the source pattern.

Specifies the types of data to be split.

NOTE
- When there is no memory available in the destination style for local sample voice data, "Too Many Local Voices" will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
- Undo/Redo (Page 134) can be used after a sample voice copy operation, but will not apply to the sample voice.
- When the "Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Copy Pattern job.
- When the KEEP ORIGINAL PHRASE checkbox is checked, this job requires twice the number of empty user phrases as the number of tracks containing data in which to store the appended phrase data. If the required phrases are unavailable the "Phrase Number Overflow" message will appear and the job will be aborted. If this occurs use Job 25 (Clear Phrase) to delete unused phrases and try again.

35 Clear Pattern

This job deletes all data from the selected pattern, or from all patterns.
When Section = All the scene/mute memory data is also cleared.



1 Style and Section

[Settings] Style .... 01 ~ 64, ALL
Section.................. A ~ P, ALL

Select the style and section from which data is to be cleared.

NOTE
If Clear Pattern is executed when Style is set to ALL, the Undo function cannot be used.

2 Keep Common Samples

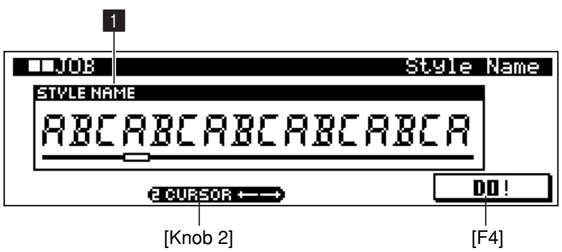
If the checkbox is checked, the common sample voices used by the specified patterns will not be cleared.

NOTE
Local sample voices used by the specified pattern will be cleared regardless of this setting.

36 Style Name

Use this job to enter or change a style name. The name can be up to 16 characters long.

NOTE
Styles cannot be selected from this display. Select the style you want to name or rename while in the PATTERN Play mode.



1 Style Name

Refer to "Chapter 1: Basics", page 67, for details on name entry.

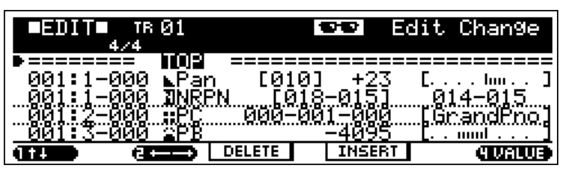
15. Phrase Editing

In addition to editing and deleting data recorded in user phrases, this sub mode allows insertion of new events. It can be used to correct mistakes as well as add dynamics or effects such as vibrato to refine and finish the phrase.
Press [EDIT] from the PATTERN Play or Patch mode to go to the phrase edit Edit Change page.

NOTE
- If the memory protect function is ON, "Memory Protect" will appear on the display and it will not be possible to edit, delete, or insert events. In this case go to the UTILITY mode System page (Page 257) and turn MEMORY PROTECT "OFF".
- "Events" include notes played on the keyboard, voice changes (program change), and all other performance data recorded in a track.

Phrase Edit Procedure

1. Select the track to which the user phrase is assigned in the PATTERN Play or Patch mode.
   Tracks can be selected by pressing the appropriate key on the keyboard while holding the [TRACK SELECT] button.
2. Press [EDIT] to go to the PHRASE EDIT Edit Change page.



- **Events can be edited or deleted via this display page. To insert a new event press [F3] to go to the event type selection page.**

● **Editing and Deleting Existing Events**

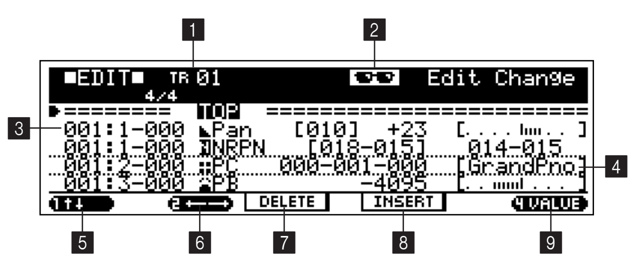
3. Use [Knob 1] to move the cursor to the event to be edited.
   - **When the cursor is move to a note event the corresponding note will sound.**
4. Use [Knob 2] to move the cursor to the event parameter to be edited, and change the value as required. An edited event will flash on the display.
   - **For details about all events and parameters refer to "Chapter 7: Other Information", page 263.**
   - **The measure, beat, and clock can be edited to change the location of an event, as required.**
   - **While an event is flashing (being edited), you can use the SUB MODE buttons as a numeric keypad to directly enter parameter values.**
5. When the parameter has been edited as required, press [ENTER] to confirm and enter the edit (the event will stop flashing).
   - **If the cursor is moved to a new event while the current event is still flashing, editing of the current event is cancelled.**
6. Press [F2] to delete the event at the cursor position.

● **Inserting New Events**

7. Press [F3] to go to the Edit Insert page.

8. Use this page to specify the event to be inserted, setting the measure, beat, clock, and event type as required.
9. Press [F3] to insert the specified event at the specified location.
10. Press [EDIT] to return to the EDIT Change page.

Display Parameters



[Knob 1] [Knob 2] [F2] [F3] [Knob 4]

1 TR (Track Number)

[Settings] TR01 ~ 16

Selects the track to which the phrase to be edited is assigned. Select the track by using the keyboard keys while holding the [TRACK SELECT] button.
For details on track selection refer to “Chapter 1: Basics”, page 67.

2 View Filter Icon

Indicates that the View Filter is set so that certain event types are not displayed.
View Filter settings are made via the View Filter display page (Page 156).

3 Measure, Beat, and Clock

[Settings]	**Measure**	**001 ~ 256**
	Beat	**1 ~ 16 (depends on meter)**
	Clock	**000 ~ 479 (depends on meter)**

Indicates the location of the corresponding event. Changing any of these values changes the location of the even accordingly.

4 Event and Parameters

[Settings]

Events (sequence tracks)

- **: Note**
- **: PB (Pitch Bend)**
- **: PC (Program Change)**
- **: CC (Control Change)**
- **: CAT (Channel Aftertouch)**
- **: PAT (Polyphonic Aftertouch)**
- **: RPN**
- **: NRPN**
- **: SEXC (System Exclusive)**

Parameters

Depends on the event type.

Displays the type of each event.
For details about the event type and their parameters refer to “Chapter 7: Other Information”, page 263.

> **NOTE**
> “TOP” and “END” are displayed at the beginning and end of the data, respectively. “TOP” and “END” are not phrase data and cannot be edited.

5 ↑ ↓ (Cursor ↑ and ↓) .... [Knob 1]

Moves the cursor up or down the event list to select an event for editing.

6 ← → (Cursor ← and →) .... [Knob 2]

Moves the cursor left or right to select the parameter to be edited for the current event.

7 DELETE .... [F2]

Deletes the currently selected event.

8 INSERT .... [F3]

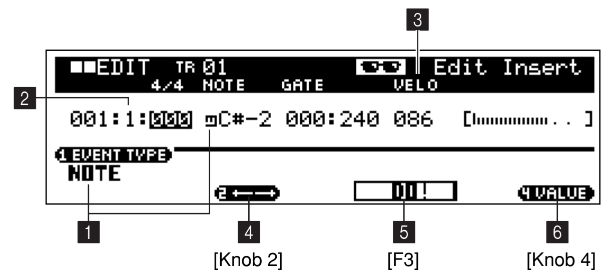
Inserts a new event.

9 VALUE .... [Knob 4]

Adjusts the value of the selected parameter.
When the entire event line is flashing after operating [Knob 4], the value can be directly entered by holding the [SHIFT] and [F4] buttons and using the SUB MODE buttons as a numeric keypad.

Insert Page

Press [F3] from the phrase EDIT page to access this page.



1 Event

[Settings]

Events (sequence tracks)

- **: Note**
- **: PB (Pitch Bend)**
- **: PC (Program Change)**
- **: CC (Control Change)**
- **: CAT (Channel Aftertouch)**
- **: PAT (Polyphonic Aftertouch)**
- **: RPN**
- **: NRPN**
- **: SEXC (System Exclusive)**

Selects the type of event to be inserted.
For details about the event type and their parameters refer to “Chapter 7: Other Information”, page 263.

2 Measure, Beat, and Clock

[Settings]	**Measure**	**001 ~ 256**
	Beat	**1 ~ 16 (depends on meter)**
	Clock	**000 ~ 479 (depends on meter)**

Specifies the location at which the new event will be inserted.

3 Parameter

The value for selected event. The available parameter(s) depends on the type of event selected.

4 ← → (Cursor ← and →)..................................[Knob 2]

Moves the cursor left or right to select the parameter to be set for the current event.

5 DO...[F3]

Inserts the specified event.

6 VALUE...[Knob 4]

Adjusts the value of the selected parameter.
The value can be also directly entered by holding the [SHIFT] and [F4] buttons and using the SUB MODE buttons as a numeric keypad.

View Filter Page

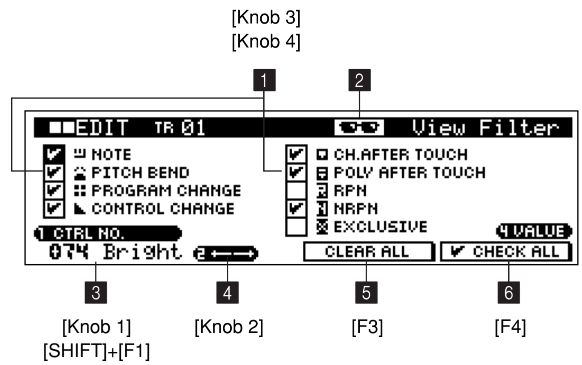
Sets the view filter.
The view filter determines which event types will appear in the edit list. It could be set, for example, so that only note events appear in the edit list.
Press [EDIT] twice from the PATTERN Play or Patch mode to go to the phrase EDIT mode View Filter page.

> **NOTE**
> "Events" include notes played on the keyboard, voice changes (program change), and all other performance data recorded in a track.

View Filter Procedure

1. Select the track to which the user phrase is assigned in the PATTERN Play or Patch mode.
   Tracks can be selected by pressing the appropriate key on the keyboard while holding the [TRACK SELECT] button.
2. Press [EDIT] twice to go to the phrase EDIT View Filter page.
3. Use [Knob 1] ~ [Knob 4] to make the required settings.
4. Press [EXIT] twice to return to the PATTERN Play or Patch mode.

Display Parameters



1 Event Checkboxes ....[Knob 3], [Knob 4]

[Settings] ☑ (ON), ☐ (OFF)

Only events with checked boxes (i.e. "ON") will appear in the event edit list.

2 View Filter Icon

This icon will appear if any event is not checked 1 (i.e. if one or more events is "OFF").

3 CTRL NO (Control Number)

......................[Knob 1], [SHIFT]+[F1] → Numeric Keypad

[Settings] 000 ~ 119, ALL

Specifies the control change numbers that will appear in the edit list.
When the CONTROL CHANGE event type view filter checkbox is ON, only the control change number(s) specified here will appear in the edit event list.

4 ← → (Cursor ← and →)................................. [Knob 2]

Moves the cursor to select a parameter.

5 CLEAR ALL... [F3]

Clears all checkboxes, turning display of all events OFF.

6 CHECK ALL .... [F4]

Checks all checkboxes, turning display of all event types ON.

Chapter 3. The Pattern Chain Mode

About the Pattern Chain Mode 158
1. Sequential Pattern Playback (Pattern Chain Play) 159
2. Creating Pattern Chains (Pattern Chain Recording)........................ 161
3. Master EQ and Effects 164
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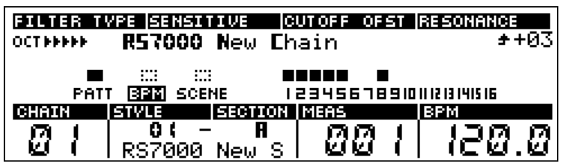
About the Pattern Chain Mode

This mode is used for sequential pattern playback. Patterns can be chained to create complete songs, and the results can be converted into an RS7000 song.
Press [PATT CHAIN] to go to the Pattern Chain Play screen of PATTERN CHAIN mode. The Pattern Chain Play page will appear.

PATTERN CHAIN



> **NOTE**
> Refer to “Chapter 1: Basics”, page 51, for more information on patterns and songs.

The PATTERN CHAIN Mode SUB MODES

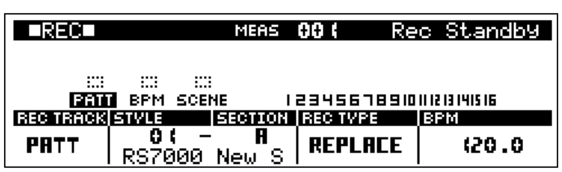
The PATTERN CHAIN mode has the following 7 sub modes.

● PATTERN CHAIN [PATT CHAIN]...(Page 159)

This mode is used to set up a sequence of patterns for playback, and play the resulting chain. The following display will always appear when the PATTERN CHAIN mode is first selected.

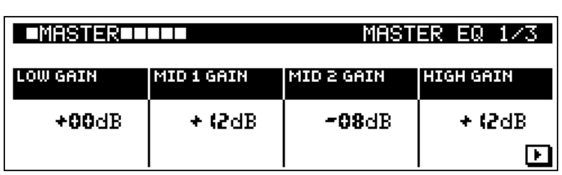
● PATTERN CHAIN Recording [REC]...(Page 161)

Record pattern changes, BPM changes, scene/mute changes, and other elements of a pattern chain.



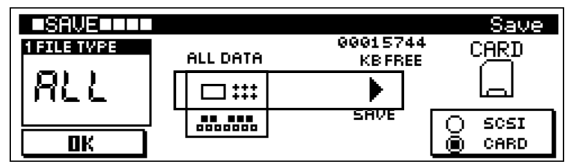
● Master [MASTER]...(Page 164)

Provides access to the master EQ and master effect settings.



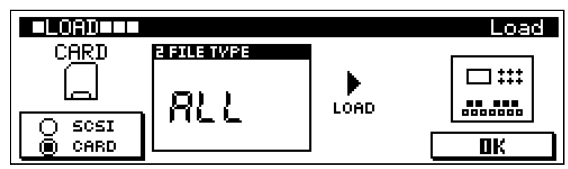
● Save [SAVE]...(Page 166)

Saves data to memory card or disk.



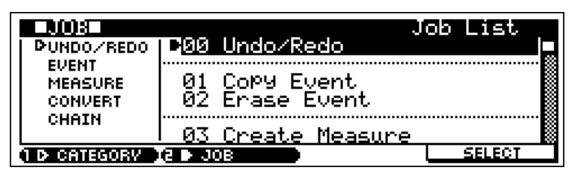
● Load [LOAD]...(Page 169)

Loads data from memory card or disk.



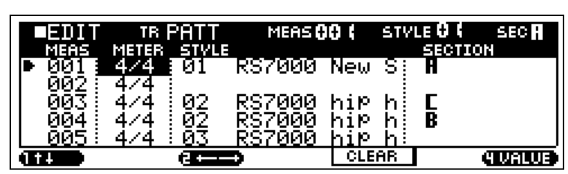
● Job [JOB]...(Page 171)

Accesses the pattern chain editing jobs.



● Edit [EDIT]...(Page 175)

Allows the order of patterns recorded in a pattern chain to be edited, and new tempo or scene/mute events to be inserted.



1. Sequential Pattern Playback (Pattern Chain Play)

Pattern chains are created and played in this mode.
Press [PATT CHAIN] to go to the PATTERN CHAIN mode.

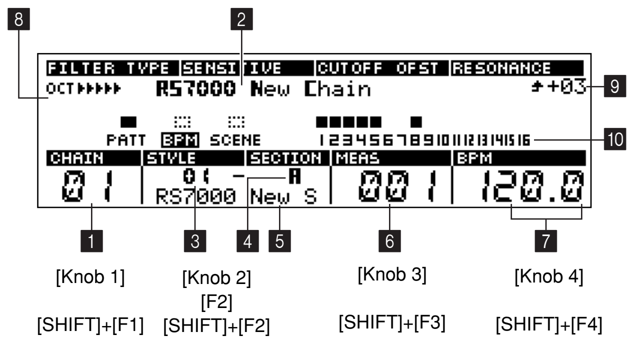
NOTE
Refer to "2. Pattern Chain Recording" on page 161 for details on recording pattern chains.

Pattern Chain Playback Procedure

1. Press [PATT CHAIN] to go to the PATTERN CHAIN Play display.
2. Use [Knob 1] (CHAIN) to select the pattern chain to be played.
3. Press the sequencer [PLAY] button to start chain playback.

NOTE
- The parameters in the PATTERN CHAIN Play display page can be edited during pattern chain playback. Changes made during playback are temporary and will not overwrite the pattern chain data. Refer to "2. Pattern Chain Recording" on page 161 for details on recording pattern chain changes.
- When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
- You can also use the SUB MODE buttons as a numeric keypad to enter values after holding both the [SHIFT] and [F1] ~ [F4] button.

Display Parameters



1 **CHAIN** .... **[Knob 1], [SHIFT]+[F1] → Numeric Keypad**

2 **Chain Name**

[Settings]

Pattern Chain Number	**01 ~ 20**
Chain Name	**Display only.**

Specifies the number of the pattern chain to be played.

3 **STYLE** .... **[Knob 2], [SHIFT]+[F2] → Numeric Keypad**

4 **SECTION** .... **[F2] → [Knob 2]**

3
The Pattern Chain Mode

5 Style Name

[Settings]

Style Number	**OFF, 01 ~ 64, END**
Section	**A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P**
Style Name	**Display only.**

Displays the currently-playing style and section. Also allow the style and section to be temporarily changed.
If further style or section changes are record in the chain, however, those changes will take priority.
The STYLE parameter can be set to OFF to create breaks (blank sections) in the chain (the chain continues playing). When STYLE is set to END, playback will stop at that point.
Press [F2] to move the cursor and use [Knob 2] to set the section.

NOTE

- Refer to “Chapter 1: Basics”, page 51, for more information on styles and sections.
- Sections can be changed by pressing the [KEYBOARD] button so that its indicator goes off, and then pressing the black key on the keyboard corresponding to the desired section. (Page 72)

6 MEAS (Measure)..... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

[Settings] 001 ~ 999

Displays the current measure number. Can also be used to change the current measure number.

NOTE

- The [|◀]/[◀◀]/[▶▶] buttons can also be used to move from measure to measure (also during playback).
- Press [STOP] while holding [SHIFT] to set the current measure as the jump location (the measure to which the song position will jump when playback is stopped). The jump setting can be cancelled by pressing [◀◀] or [▶▶] while holding [SHIFT].

7 BPM .... [Knob 4], [SHIFT]+[F4] → Numeric Keypad

[Settings] 001.0 ~ 300.0 (BPM)

Sets the pattern chain playback tempo.
Use [Knob 4] to adjust the BPM in steps of 1, or press [F4] to move the cursor to the right of the decimal point and use [Knob 4] to adjust in steps of 0.1.

NOTE

BPM can also be set by using the [TAP] button (Page 68).

8 OCT (Octave)

[Settings] -5 octaves ~ +5 octaves

Shows the current octave setting of the keyboard.
Each “◀” on the display corresponds to one octave down, and each “▶” corresponds to one octave up.
The keyboard octave can be changed by pressing the [KEYBOARD] button so that its indicator lights, and then using the [OCT DOWN] and [OCT UP] buttons to set the octave.
Press the [OCT DOWN] and [OCT UP] buttons simultaneously to restore the normal keyboard octave settings (no octave shift).

9 Transpose

[Settings] -36 ~ 0 ~ +36 (semitones)

Transposes the pitch of pattern chain playback.
Transposition is set in semitone increments. A setting of “12” transposes by one octave.

[Procedure]

The transpose procedure is the same as in the PATTERN mode (Page 73).

10 Track

Shows the track numbers, and indicates whether the corresponding track contains data, as well as the mute or solo status of the track. The three track types available in the PATTERN CHAIN mode (PATT, SCENE, and BPM) as well as the tracks included in the currently selected pattern (1 ~ 16) are shown.

■: The track contains sequence data.
□: The track is muted (no sound will be produced by this track). (TR01 ~ TR16)
: The track is empty (TR01 ~ TR16).
⬚: The track is empty (PATTERN, SCENE/MUTE, BPM).

[Track selection procedure]

With the difference that you can select BPM track, Scene/Mute track, or Pattern track, the procedure for selecting a track is the same as when selecting a Patterne track. The BPM track and Scene/Mute track can be selected by holding down [TRACK SELECT] and pressing [TR-]/[TR+].
The name or number of the selected track will be displayed in inverse video (black).

[Mute & Solo Setting Procedure]

The mute and solo setting procedure is the same as in the PATTEN mode (Page 74).

2. Creating Pattern Chains (Pattern Chain Recording)

This function makes it possible to specify a sequence of patterns for pattern chain playback. Sections switching, track muting, scene/mute changes, and BPM changes can be recorded in real time.

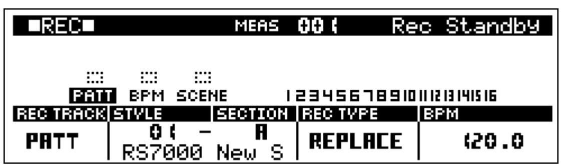
> **NOTE**
> - Events recorded in real time can be edited and new events individually inserted in the pattern chain via the Pattern Chain Edit mode (Page 175).
> - Before recording a pattern chain be sure to turn the UTILITY mode Memory Protect function OFF (Page 257). If the Memory Protect function is ON recording will not be possible.

Pattern Chain Recording Page

Pattern Chain Recording includes the following display pages.

● Record Standby...(Page 161)

Selects the track to be recorded and allows other preparations for recording.



● Real Time Recording ...(Page 162)

Operations performed via the RS7000 keyboard and scene/mute memory buttons as well as pattern and tempo changes can be recorded in real time.

> **NOTE**
> - Pattern chain real time recording is always carried out in the Replace mode (previous data in the recorded track will be overwritten and replaced by the new data).
> - Style and section changes can be recorded once per measure in the pattern track. If a style or section is changed in the middle of a measure, it will actually be recorded at the beginning of the next measure.

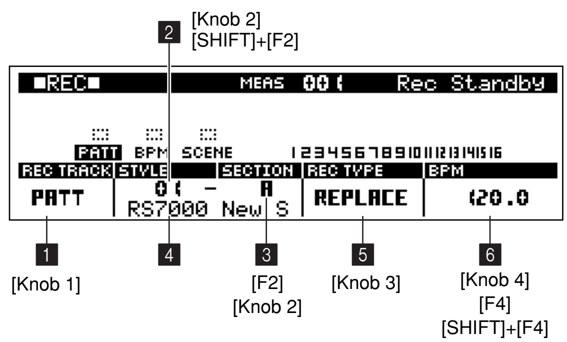
Record Standby

Select the track to be recorded.

Record Standby Procedure

1. Press [PATT CHAIN] to go to the PATTERN CHAIN Play mode.
2. Use [Knob 1] (CHAIN) to select the chain number to be recorded.
3. Press [REC] to engage the record standby mode.

Display Parameters



1 REC TRACK (Record Track)........................ [Knob 1]

[Settings] PATT, BPM, SCENE

- **PATT.................PATTERN track**
- **BPM..................BPM track**
- **SCENE..............SCENE/MUTE track**

Selects the track to be recorded.

2 STYLE............[Knob 2], [SHIFT]+[F2] → Numeric Keypad

3 SECTION .... [F2] → [Knob 2]

4 STYLE NAME

[Settings]

Style Number	**OFF, 01 ~ 64, END**
Section	**A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P**
Style Name	**Display only.**

Displays the currently-playing style and section. Also allow the style and section to be recorded at the beginning of the next measure to be selected during pattern track recording.
If further style or section changes are record in the chain, however, those changes will take priority.
The STYLE parameter can be set to OFF to create breaks (blank sections) in the chain (the chain continues playing). When STYLE is set to END, playback will stop at that point.
Press [F2] to move the cursor and use [Knob 2] to set the section.

NOTE
- Refer to “Chapter 1: Basics”, page 59, for more information on styles and sections.
- Sections can be changed by pressing the [KEYBOARD] button so that its indicator goes out, and then pressing the black key on the keyboard corresponding to the desired section. (Page 72)

5 REC TYPE (Record Type) ....[Knob 3]

[Settings] REPLACE, STEP

REPLACE .... **Any previous data in the recorded track will be erased (overwritten) and replaced by the new data.**
STEP .... **This mode allows events to be entered one at a time. This mode is only available when the BPM track is selected.**

Selects the record mode.
Only the REPLACE option is available when any track other than BPM is selected.

6 BPM ....[Knob 4], [F4] → [Knob 4], [SHIFT]+[F4]→ Numeric Keypad

[Settings] 001.0 ~ 300.0 (BPM)

Sets the pattern chain playback tempo.
Use [Knob 4] to adjust the BPM in steps of 1, or press [F4] to move the cursor to the right of the decimal point and use [Knob 4] to adjust in steps of 0.1.

Real Time Recording

Operations performed via the RS7000 keyboard, scene/mute memory buttons, and knobs as well as pattern and tempo changes can be recorded in real time.

Real Time Recording Procedure

1. Press [PATT CHAIN] to go to the PATTERN CHAIN Play mode.
2. Use [Knob 1] (CHAIN) to select the chain number to be recorded.
3. Press [REC] to engage the record standby mode.
4. Use [Knob 1] (REC TRACK) to select the track to be recorded.
5. If the BPM track is selected for recording, use [Knob 3] (REC TYPE) to select the REPLACE record mode.
6. Use [Knob 4] to set the BPM.
7. If the pattern track is to be recorded in real time, use [Knob 2] (STYLE) and [F2] → [Knob 2] (SECTION) to set the style and section for the first measure.
8. Press [PLAY] so that its indicator flashes, then start recording after the count-in.
9. Operate [Knob 2] (STYLE), [F2] → [Knob 2] (SECTION), [Knob 4] (BPM), [F4] → [Knob 4] (BPM) the keyboard and scene/mute memory buttons as required.

NOTE
- If the pattern track is selected, [Knob 2] and [F2] → [Knob 2] can be used to record style and section changes. Sections A ~ J can also be selected via the black keys on the keyboard after the [KEYBOARD] button is pressed so that its indicator goes out. These changes will actually be recorded at the beginning of the next measure.
- If the BPM track is selected use [Knob 4] or [F4] → [Knob 4] to record BPM changes.
- If the SCENE (scene/mute) track is selected use the [SCENE/MUTE] and [MEMORY 1] ~ [MEMORY 5] buttons to record scene and mute memory operations. Also, if the [MUTE] button is pressed so that its indicator lights the white keys on the keyboard can be used to record track mute and un-mute operations.

10. Press [STOP] to stop recording.

NOTE
- Pressing [JOB] while holding [SHIFT] directly accesses the “00 Undo/Redo” job (Page 134), allowing the previous record operation to be undone. This is useful if, for example, you’ve accidentally erased material you wanted to keep.
- When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
- You can also use the SUB MODE buttons as a numeric keypad to enter values after holding both the [SHIFT] and [F4] button.

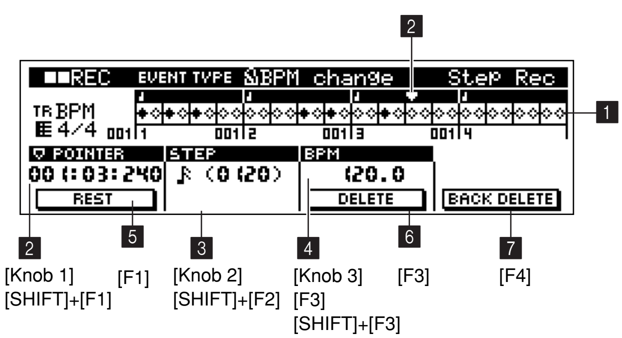
Step Recording

Allows events to be recorded to the BPM track one at a time.
Step recording can only be applied to the BPM track. Displays and operation are the same as for BPM track recording in the SONG mode.

Step Recording Procedure

1. Press [PATT CHAIN] to go to the PATTERN CHAIN Play mode.
2. Use [Knob 1] (CHAIN) to select the chain number to be recorded.
3. Press [REC] to engage the record standby mode.
4. Use [Knob 1] (REC TRACK) to select the BPM track to be recorded.
5. Use [Knob 3] (REC TYPE) to select the STEP record mode.
6. Press [PLAY] so that its indicator lights and the Step Recording display appears.
7. Use [Knob 1] (POINTER) to move the pointer to the position at which you want to enter a BPM change, [Knob 2] (STEP) to set the step length, and [Knob 3] (BPM) to set the BPM value.
   When you need to make large value changes rotate the knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
8. Enter the specified value by pressing any key on the keyboard.
9. If you press the [PLAY] button the [PLAY] indicator will flash and you will be able to hear how your step-recorded chain is shaping up. Press [STOP] to stop playback.
10. Stop recording and return to the SONG Play mode by pressing the [STOP] button.

Display Parameters



1 Beat Graph

This is the display in which events are "placed" during step recording.
When the meter is 4/4, the display is divided into 4 beats (one measure). Each diamond-shaped marker in the display represents 1 32nd beat (each 1/4 note division is divided into 8 32nd beats).

2 POINTER ...... [Knob 1], [SHIFT]+[F1] → Numeric Keypad

Sets the data entry position.
The triangular pointer above the beat graph indicates the data entry position. Rotate [Knob 1] to move the left or right. Measure numbers can be specified numerically by using [SHIFT] + [F1] + numeric keypad.

3 STEP (Step Time)

.... [Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings]

Settings made via the knob

0001 ~ 0059, 32nd note, 16th note triplet, 16th note, 8th note triplet, 8th note, 1/4 note triplet, 1/4 note, half note, whole note

Settings made via the numeric keypad

0001 ~ 9999 clocks

Specifies the step time: the size of the step the pointer will move to the next position after an event is entered.

4 BPM .... [Knob 3], [F3], [SHIFT]+[F3] → Numeric Keypad

[Settings] 001.0 ~ 300.0

Specifies the BPM value to be entered.

5 REST .... [F1]

When [F1] is pressed the pointer will move by the specified step time.

6 DELETE... [F3]

Use [Knob1] (POINTER) while holding [F3] to delete all events the pointer passes.

7 BACK DELETE .... [F4]

Moves the pointer backward by one step and deletes all events at that location.

> **NOTE**
> Mistakenly entered events can be erased by pressing [F4] immediately after they are entered (before changing the step time value).

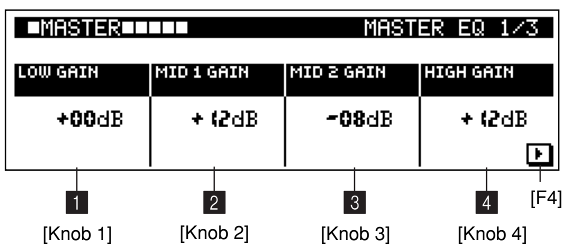
3. Master EQ and Effects

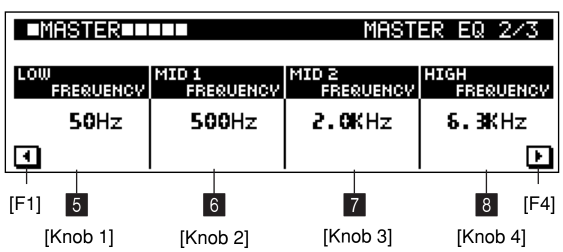
The MASTER sub-mode provides access to the master EQ parameters which adjust the sound at the final output stage, and the master effect parameters.
The Master EQ parameters are available on 3 sub pages accessible via the [F1] and [F4] buttons, and the Master Effect parameters are available on 5 sub pages accessible via the [F1] and [F4] buttons.
Press the [MASTER] button from the PATTERN Chain mode to go to the MASTER mode.
Details are the same as in the PATTERN mode (Page 111).

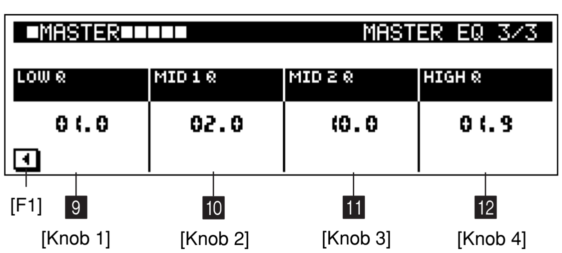
Display Parameters

[1] Master EQ Page

[PATT CHAIN] → [MASTER]







1 **LOW GAIN** .... **[Knob 1]**

2 **MID1 GAIN** .... **[Knob 2]**

3 **MID2 GAIN** .... **[Knob 3]**

4 **HIGH GAIN** .... **[Knob 4]**

5 **LOW FREQUENCY** .... **[Knob 1]**

6 **MID1 FREQUENCY** .... **[Knob 2]**

7 **MID2 FREQUENCY** .... **[Knob 3]**

8 **HIGH FREQUENCY** .... **[Knob 4]**

9 **LOW Q** .... **[Knob 1]**

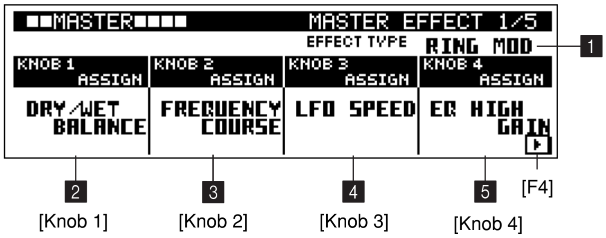
10 **MID1 Q** .... **[Knob 2]**

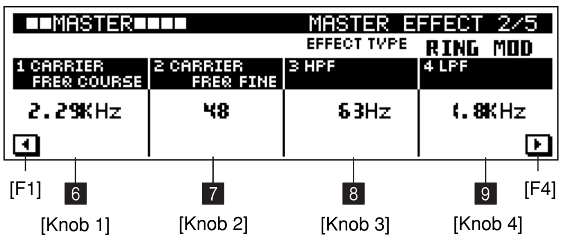
11 **MID2 Q** .... **[Knob 3]**

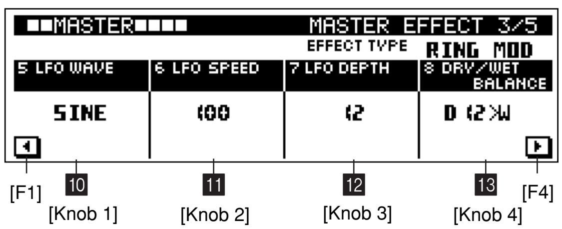
12 **HIGH Q** .... **[Knob 4]**

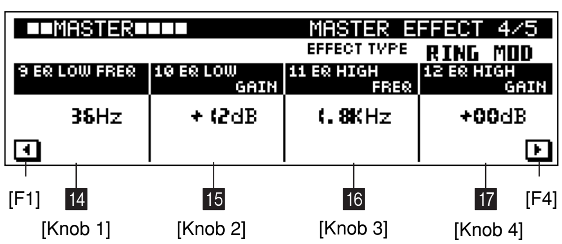
[2] Master Effect Page

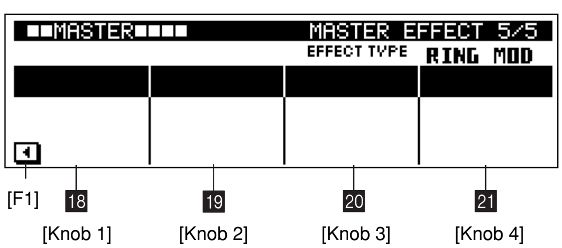
[PATT CHAIN] → [MASTER] × 2











1 **EFFECT TYPE** ....[MASTER EFFECT Select Knob]

2 **KNOB1 ASSIGN** .... [Knob 1]

3 **KNOB2 ASSIGN** .... [Knob 2]

4 **KNOB3 ASSIGN** .... [Knob 3]

5 **KNOB4 ASSIGN** .... [Knob 4]

6 **Effect Parameter 1** .... [Knob 1]

7 **Effect Parameter 2** .... [Knob 2]

8 **Effect Parameter 3** .... [Knob 3]

9 **Effect Parameter 4** .... [Knob 4]

10 **Effect Parameter 5** .... [Knob 1]

11 **Effect Parameter 6** .... [Knob 2]

12 **Effect Parameter 7** .... [Knob 3]

13 **Effect Parameter 8** .... [Knob 4]

14 **Effect Parameter 9** .... [Knob 1]

15 **Effect Parameter 10** .... [Knob 2]

16 **Effect Parameter 11** .... [Knob 3]

17 **Effect Parameter 12** .... [Knob 4]

18 **Effect Parameter 13** .... [Knob 1]

19 **Effect Parameter 14** .... [Knob 2]

20 **Effect Parameter 15** .... [Knob 3]

21 **Effect Parameter 16** .... [Knob 4]

4. Saving to Memory Card or Disk

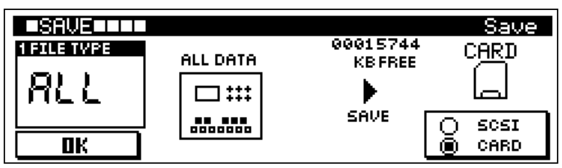
The SAVE sub-mode allows you save and load data to or from standard memory cards — available at many electronics and computer stores — or disks. 5 display pages are provided: Save, Export, Rename, Delete, and Format.
Press [SAVE] from the PATTERN Chain Play mode to go to the SAVE sub mode. The SAVE sub mode cannot be selected, however, during pattern chain playback or recording.

> **NOTE**
> For information about memory cards, disks, file data, file extensions, etc., refer to “Chapter 2: The Pattern Mode”, page 114.

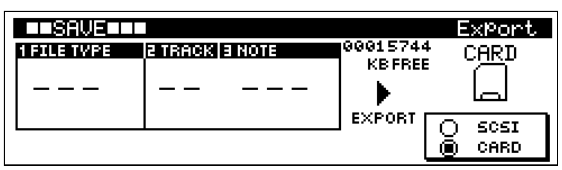
Save Page Structure

The SAVE sub-mode includes the following display pages.

● Save...(Page 167)
Saves data from the internal memory to memory card or disk.

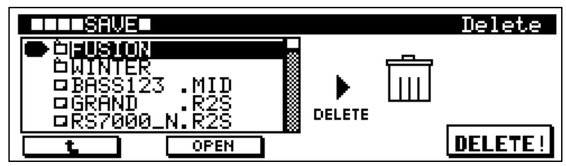


● Export...(Page 167)
Export functions are not available from the Pattern Chain mode.

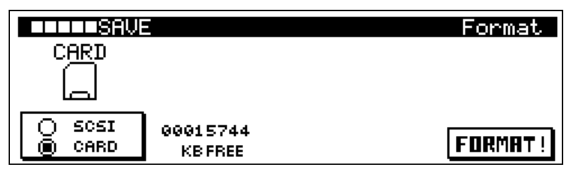


● Rename...(Page 167)
Changes the file name of a file stored on memory card or disk.

● Delete...(Page 168)
Deletes a specified file from memory card or disk.



● Format...(Page 168)
Formats a memory card or disk.

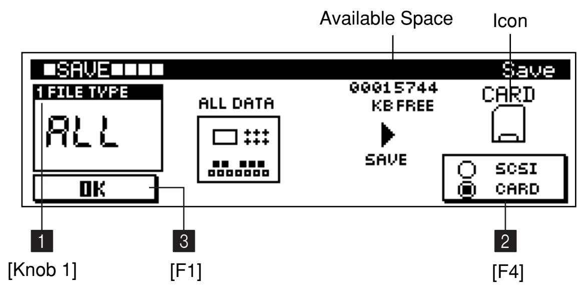


[1] Save Page

Saves internal data to a memory card or disk.
Details are the same as for the PATTERN mode SAVE page (Page 114). Only parameters that are different from the PATTERN mode will be introduced here.

Display Parameters

[PATT CHAIN] → [SAVE]



1 FILE TYPE .... **[Knob 1]**

[Settings] ALL

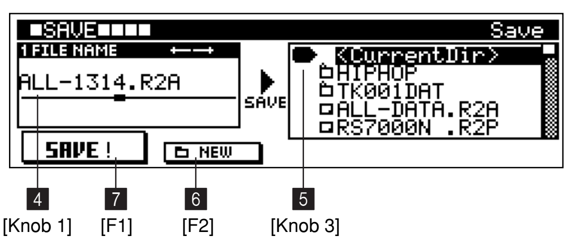
The type of data to be saved is set to ALL and cannot be changed.
For descriptions of the various file types see “About File Types” on page 116.

2 SCSI/CARD .... **[F4]**

3 OK .... **[F1]**

■ Save Execution Page

[PATT CHAIN] → [SAVE] → [F1]



4 FILE NAME .... **[Knob 1]**

5 Folder Select .... **[Knob 3]**

6 NEW .... **[F2]**

7 SAVE! .... **[F1]**

[2] Export Page

[PATT CHAIN] → [SAVE] × 2

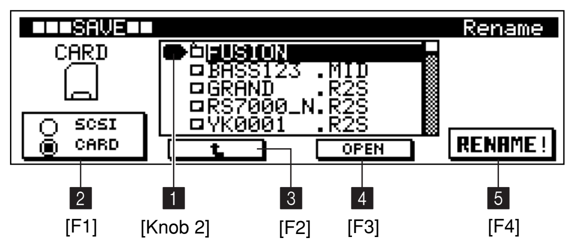
The export functions are not available from the PATTERN Chain mode.

[3] Rename Page

Changes the name of a file or folder.
Details are the same as for the PATTERN mode SAVE page. (Page 114)

Display Parameters

[PATT CHAIN] → [SAVE] × 3



1 FILE ....[Knob 2]

2 SCSI/CARD ....[F1]

3 ⮤ (UP) ....[F2]

4 OPEN ....[F3]

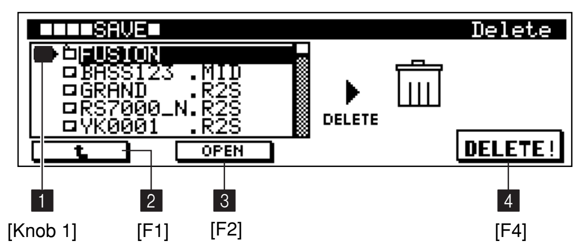
5 RENAME! ....[F4]

[4] Delete Page

Deletes files or folders.

Display Parameters

[PATT CHAIN] → [SAVE] × 4



1 FILE ....[Knob 1]

2 ⮤ (UP) ....[F1]

3 OPEN ....[F2]

4 DELETE ....[F4]

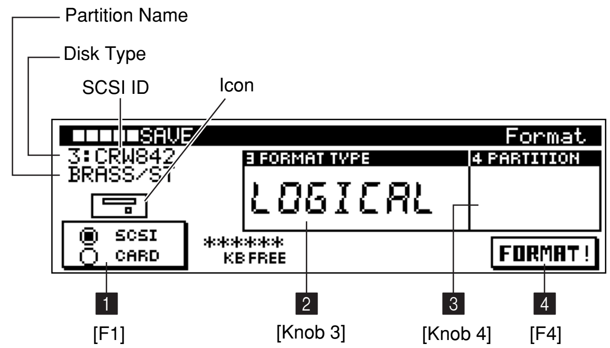
[5] Format Page

Formats memory cards and disks.

Display Parameters

[PATT CHAIN] → [SAVE] × 5

CARD or DISK = SCSI



CARD or DISK = CARD

1 SCSI/CARD ....[F1]

2 FORMAT TYPE ....[Knob 3]

3 PARTITION ....[Knob 4]

4 FORMAT! ....[F4]

5. Loading from Memory Card or Disk

This sub mode is used to load data from a memory card or disk.
3 display pages are provided: Load, Import, and SCSI Setup.
Press [LOAD] from the PATTERN Chain mode to go to the Load display.

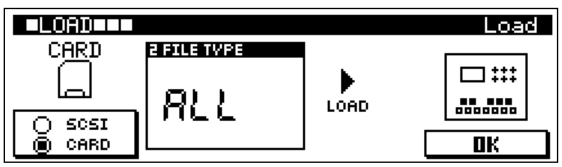
> **NOTE**
> Refer to “Chapter 2: The Pattern Mode”, page 116, for information about file types.

Load Page Structure

The LOAD sub-mode includes the following display pages.

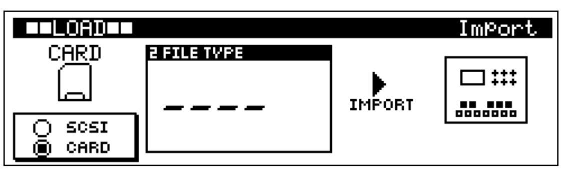
- **Load...(Page 169)**

Loads data into the internal memory from memory card or disk.



- **Import...(Page 170)**

This import functions are not available from the PATTERN chain mode.



- **SCSI Setup...(Page 170)**

Provides access to a number of SCSI settings.

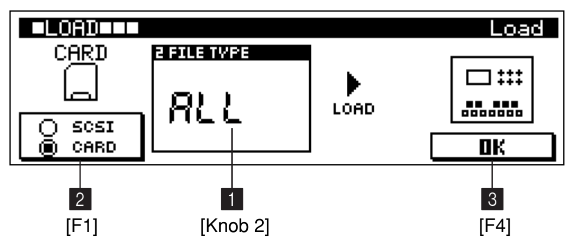
[1] Load Page

Loads data to internal memory from a memory card or disk. Details are the same as for the PATTERN mode LOAD page (Page 126). Only parameters that are different from the PATTERN mode will be introduced here.

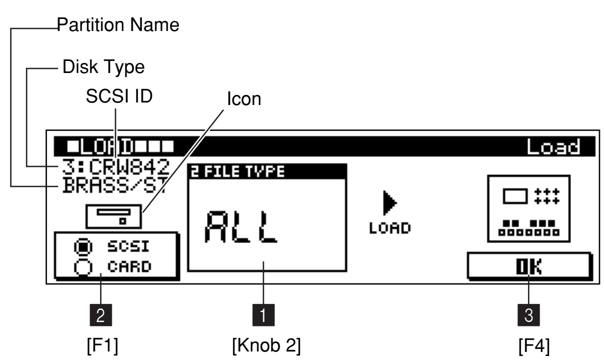
Display Parameters

[PATT CHAIN] → [LOAD]

CARD or DISK = CARD



CARD or DISK = SCSI



1 FILE TYPE ....[Knob 2]

[Settings] ALL, ALL+SYSTEM

ALL .... **An ALL type (.R2A) file is loaded and all internal memory except the system setup data is overwritten.**

ALL+SYSTEM .. **An ALL type (.R2A) file is loaded and all internal memory including the system setup data is overwritten.**

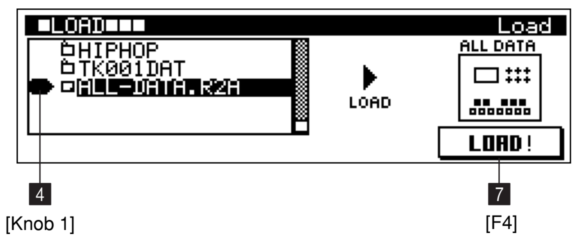
Specifies the type of data file to be loaded.
For details about the various file types see “Chapter 2: The Pattern Mode”, page 116.

2 SCSI/CARD ....[F1]

3 OK ....[F4]

■ Load Execution Page

[PATT CHAIN] → [LOAD] → [F4]



4 File Select ....[Knob 1]

5 ↰ (UP) ....[F1]

6 OPEN ....[F2]

7 LOAD! ....[F4]

[2] Import Page

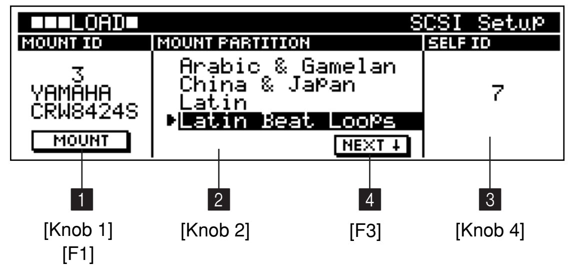
The import functions are not available from the PATTERN chain mode.

[3] SCSI Setup Page

Provides access to a number of SCSI settings.
Details are the same as for the PATTERN mode LOAD page (Page 126).

Display Parameters

[PATT CHAIN] → [LOAD] × 3



1 MOUNT ID ....[Knob 1], [F1]

2 MOUNT PARTITION .... [Knob 2]

3 SCSI SELF ID .... [Knob 4]

4 NEXT/PREV .... [F3]

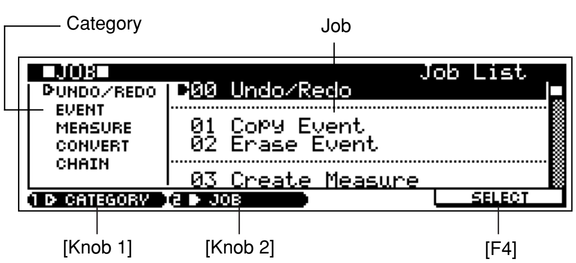
6. The Pattern Chain Jobs

The RS7000's 9 pattern chain "jobs" can be used to edit and modify pattern chain data in a number of ways.

● Job List

[Undo/Redo Category]		
00 Undo/Redo	Undo cancels the changes made by the most recent operation, restoring the data to its previous state, while Redo restores the "undone" change.	P.172
[Event Category]		
01 Copy Event	Copies all data from a specified source range to a specified destination location.	P.172
02 Erase Event	Clears all events from the specified range.	P.172
[Measure Category]		
03 Create Measure	Creates empty measures at the specified location.	P.173
04 Delete Measure	Deletes the specified measure(s).	P.173
[Convert Category]		
05 Convert To Song	Converts the current pattern chain to performance data and copies the data to a specified song.	P.173
[Chain Category]		
06 Copy Chain	This job copies all data from a selected source pattern chain to a selected destination pattern chain.	P.174
07 Clear Chain	This job deletes all data from the selected pattern chain.	P.174
08 Chain Name	Use this job to enter or change a pattern chain name.	P.174

Pattern Chain Job Procedure



1. Press the [JOB] button from the PATTERN Chain Play mode to go to the job list.
2. Use [Knob 1] (CATEGORY) and [Knob 2] (JOB) to move the cursor to the desired job.
3. Press [F4] (SELECT) to jump to the selected job page.
4. Use [Knob 2] (CURSOR ← →) to move the cursor to the various parameters, and [Knob 3] (VALUE -/+) or [SHIFT]+[F3] → Numeric Keypad to set the parameter values as required.
5. When the parameters are set press [F4] (DO!) to execute the job. "Completed." will appear when the job is done.
6. Press [EXIT] twice to go back to the PATTERN Play or Patch mode.

> **NOTE**
> If the memory protect function is ON, "Memory Protected" will appear on the display when the [JOB] button is pressed and it will not be possible to access the job list. In this case go to the UTILITY mode System page (Page 257) and turn MEMORY PROTECT "OFF".

Precautions

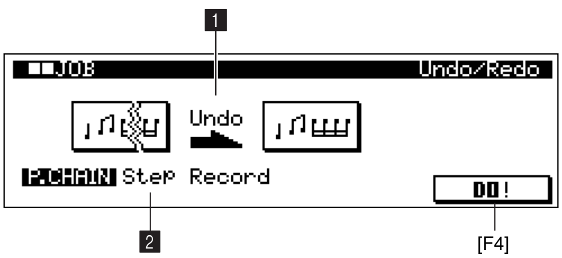
- If there is no data in the specified range "No Data" will appear on the display and the job can not be executed.
- If you make a mistake or want to compare the sound of the data before and after executing a job, use the Undo/Redo function (Page 172).

00 Undo/Redo

The Undo job cancels the changes made by the most recent operation (job, edit, recording), restoring the data to its previous state. The Redo job cancels Undo and restore the changes.
Undo/Redo can also be executed by pressing [SHIFT]+[JOB] in display pages such as the Play screen.

NOTE

Undo/Redo does not work with sample voice operations.



1 Undo/Redo Indication

"Undo" or "Redo" appears on the display to indicate the job that is currently available. Undo and Redo are selected alternately.

2 Undo/Redo target

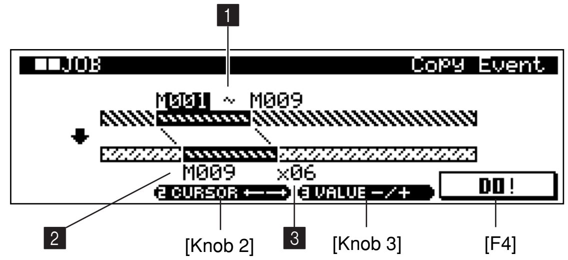
Identifies the operation currently available for undoing or redoing.
If the specified Undo/Redo target is not in memory, "Undo Impossible!" will appear and the Undo/Redo function cannot be executed.

01 Copy Event

This job copies all data from a specified source range to a specified destination location.

CAUTION

When Copy Event is executed any data already existing at the Destination location will be overwritten.



1 Source Range

[Settings] Measures 001 ~ 999

Specify the source range from which the data will be copied.

2 Destination Location

[Settings] Measures 001 ~ 999

Specifies the location to which the data will be copied.

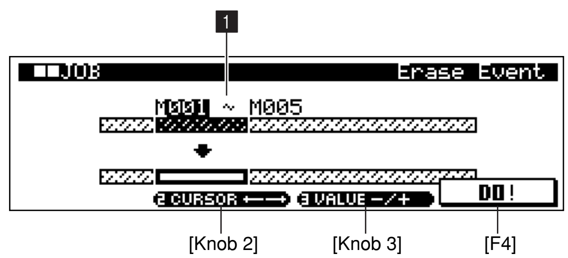
3 Times

[Settings] 01 ~ 99

Specifies the number of times the data is copied.

02 Erase Event

This job clears all data from the specified range.



1 Range

[Settings] Measures 001 ~ 999

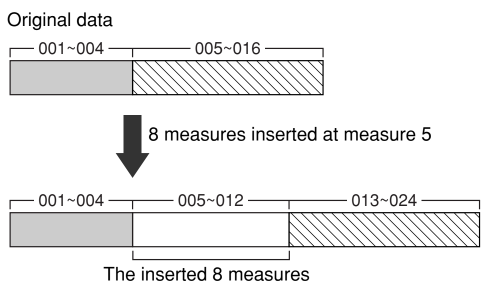
Sets the range of measures over which the job will be applied.

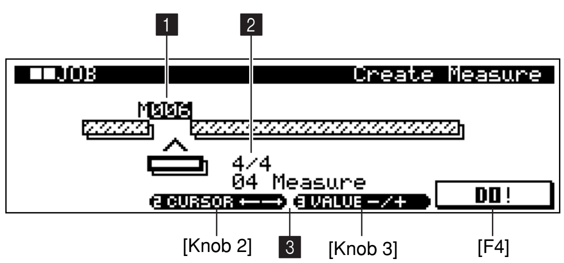
03 Create Measure

Creates empty measures at the specified location.

NOTE

- When empty measures are inserted, measure and meter data following the insert point are moved forward accordingly.
- If the insert point is set after the last measure containing data, only the meter data at that point is set without actually inserting the measures.





1 Insert Point

[Settings] 001 ~ 999

Specifies the insert point (measure number) at which the newly created blank measures will be inserted.

2 Meter

[Settings] 1/16 ~ 16/16, 1/8 ~ 16/8, 1/4 ~ 8/4

Specifies the meter of the measures to be created.

3 Number of Measures

[Settings] 01 ~ 99

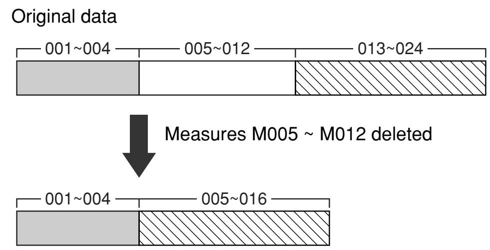
Specifies the number of empty measures to be created and inserted.

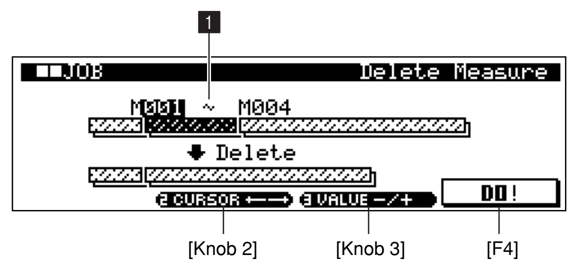
04 Delete Measure

Deletes the specified measures.

NOTE

- Measure and meter data following the deleted measures are moved backward accordingly.





1 Delete Range

[Settings] 001 ~ 999

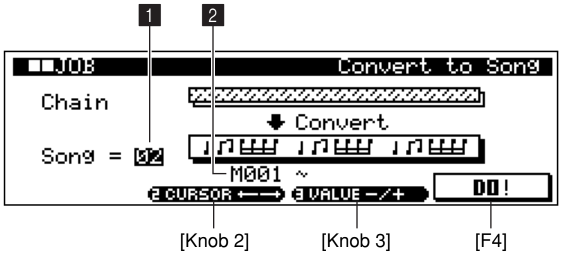
Specifies the range of measures to be deleted.

05 Convert to Song

Converts the current pattern chain to performance data and copies the data to a specified song.

NOTE

- Pattern chains cannot be selected from this display page. Be sure to select the pattern chain you want to convert while in the PATTERN Chain mode, then select this job.
- Local sample voices used by the styles in the chain will also be copied to the song as local sample voices. If multiple styles are used in a chain, however, only the local sample voice of the style used in the last measure of the chain will be copied.



1 Song Number

[Settings] 01 ~ 20

Sets the song to which the converted pattern chain data will be copied.

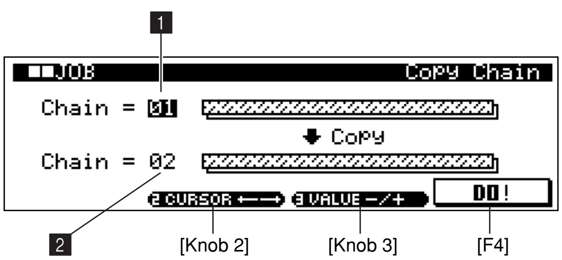
2 Measure

[Settings] 001 ~ 999

Specifies the range of data to be converted and copied.

06 Copy Chain

This job copies all data from a selected source pattern chain to a selected destination pattern chain.



1 Source Pattern Chain

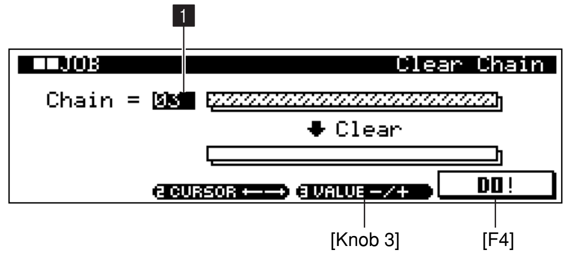
2 Destination Pattern Chain

[Settings] 01 ~ 20

Specify the copy source and destination pattern chain numbers.

07 Clear Chain

This job deletes all data from the selected pattern chain.



1 Chain

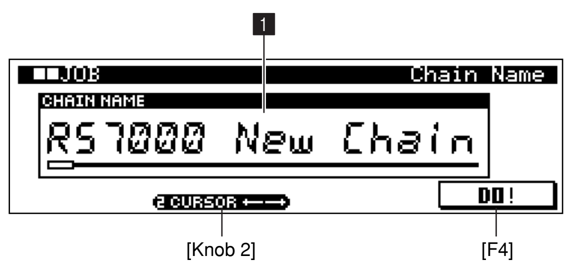
[Settings] 01 ~ 20

Selects the pattern chain to be deleted.

08 Chain Name

Use this job to enter or change a pattern chain name. The name can be up to 16 characters long.

> **NOTE**
> Pattern chains cannot be selected from this display. Select the pattern chain you want to name or rename while in the PATTERN Chain mode (Page 159).



1 Chain Name

Refer to “Chapter 1: Basics”, page 67, for details on name entry.

7. Pattern Chain Editing

The Pattern Chain Edit mode makes it possible to edit the order of the patterns in a chain as well as inserting tempo, and scene/mute event data.
Press [EDIT] from the PATT CHAIN Play mode to go to the Pattern Chain Edit Change page.

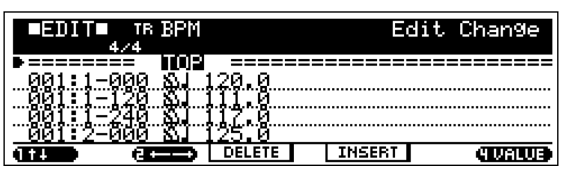
> **NOTE**
> - Before entering the Pattern Chain Edit mode be sure to turn Memory Protection OFF: go to the UTILITY mode System page (Page 257) and turn MEMORY PROTECT "OFF".
>   If memory protect is ON "Memory Protected" will appear when the [EDIT] button is pressed and pattern chain editing will not be possible.
> - The Solo function cannot be used during pattern chain editing.

Pattern Chain Edit Procedure

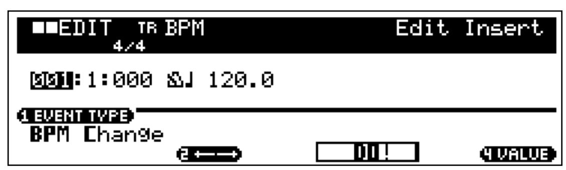
1. Select the pattern chain you want to edit in the PATT CHAIN Play mode.
2. Select the track to be edited by pressing the appropriate key on the keyboard while holding the [TRACK SELECT] button. If a track 1-16 is selected, you will enter pattern track editing.
3. Press [EDIT] to go to the PATT CHAIN EDIT Edit Change page.

When the BPM or SCENE/MUTE track is selected

BPM (tempo) and scene/mute events can be edited or deleted via this display page. To insert a new event press [F3] to go to the event type selection page.



4. Use [Knob1] to move the cursor to the event to be edited.
5. Use [Knob 2] to move the cursor to the event parameter to be edited, and use [Knob 4] (VALUE) to change the value as required. An edited event will flash on the display.
   - The measure, beat, and clock of an even can be edited to change its location.
   - While an event is flashing (being edited), you can use the SUB MODE buttons as a numeric keypad to directly enter parameter values.
6. When the parameter has been edited as required, press [ENTER] or [F3] (DO!) to confirm and enter the edit (the event will stop flashing).
   - If the cursor is moved to a new event while the current event is still flashing, editing of the current event is cancelled.
7. Press [F2] (DELETE) to delete the event at the cursor position.
8. Press [F3] (INSERT) go to the Insert page if you want to insert new tempo or scene/mute events.

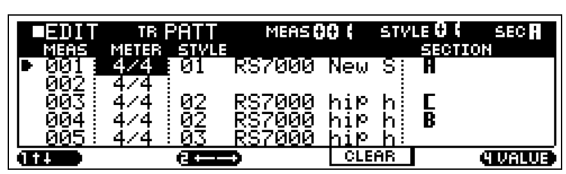


Set the measure, beat, clock, and parameter, and then press [F3] (DO!) insert the event.

9. Press [EXIT] to return to the PATT CHAIN Play page.

When a pattern track is selected

In this display the style, section, and meter can be edited for each measure.



4. Use [Knob 1] to move the cursor to the measure to be edited.
5. Use [Knob 2] to move the cursor to the meter, style, or section to be edited, and use [Knob 4] (VALUE) to change as required.
   - When a style is turned OFF, a corresponding blank section is produced during pattern playback (playback does not stop).

- Complex time signatures can be created by changing the meter at appropriate measures. It is also possible to switch sections on every beat (or 8th note or 16th note) to create special effects.

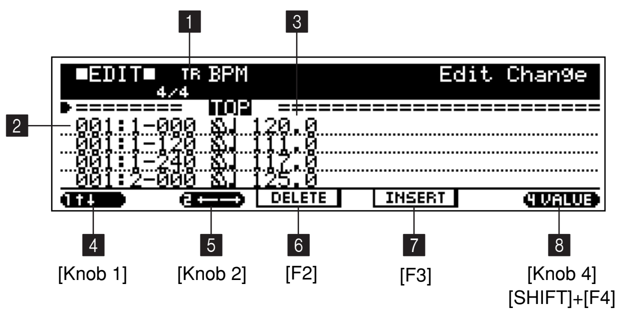
6. If you mistakenly enter data, move the cursor to that location and press [F3] (CLEAR) to delete the event.

> **NOTE**
> Be sure to enter “END” at the end of the chain.

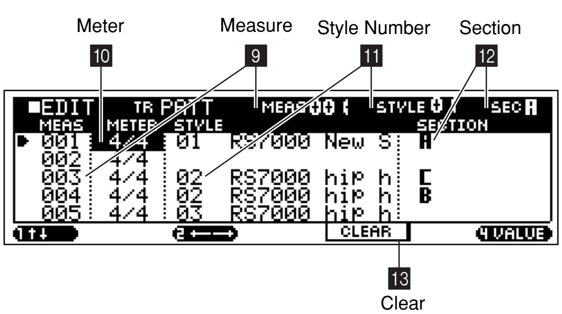
Display Parameters

Edit Change Page

When the BPM or SCENE/MUTE track is selected



When a pattern track is selected



1 Track

[Settings] BPM, SCENE, PATT

BPM .... **BPM (Tempo) track**
SCENE .... **Scene/Mute track**
PATT .... **Pattern track**

Selects the track to be edited.

2 Measure, Beat, and Clock

[Settings]

Measure	**001 ~ 999**
Beat	**1 ~ 16 (depends on meter)**
Clock	**000 ~ 479 (depends on meter)**

Indicates the location of the corresponding event. Changing any of these values changes the location of the event accordingly.

3 Event and Parameters

[Settings]

BPM Track

- **Tempo Change: 001.0 ~ 300.0 (BPM)**
  ....Tempo change events.

SCENE/MUTE Track

- **Scene Memory Number: Scene Memory 1 ~ 5**
  ....Recalls a scene memory.
- **Mute Memory Number: Mute Memory 1 ~ 5**
  ....Recalls a mute memory.
- **Track Mute: Track Mute ■■■□□■■■□□■■■□□■**
  ....Track mute on/off events. Tracks 1 ~ 16 are displayed in order from left to right. ■ indicates that mute is off; □ indicates that mute is on.

Displays the type of each event.
For details about the event types and their parameters refer to “Chapter 7: Other Information”, page 263.

> **NOTE**
> “TOP” and “END” are displayed at the beginning and end of the data, respectively. “TOP” and “END” are not phrase data and cannot be edited.

4 ↑ ↓ (Cursor ↑ and ↓) .... [Knob 1]

Moves the cursor up or down the event list to select an event for editing.

5 ← → (Cursor ← and →) .... [Knob 2]

Moves the cursor left or right to select the parameter to be edited for the current event.

6 DELETE.. [F2]

Deletes the currently selected event.

7 INSERT .... [F3]

Jumps to the Insert page to allow insertion of a new event.

8 VALUE ....[Knob 4], [SHIFT]+[F4]

Adjusts the value of the selected parameter.

9 Measure

[Settings] 001 ~ 999

Sets the measure for which the meter, style or section is to be edited. [Knob 1] can be used to move from measure to measure.

10 Meter

[Settings] 1/16 ~ 16/16, 1/8 ~ 16/8, 1/4 ~ 8/4

Sets the meter for each measure, allowing complex time signatures to be created as required.

11 Style Number

12 Section

[Settings]

Style Number	**OFF, 01 ~ 64, END**
Section	**A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P**

Specifies the style and section to be played at the measure specified by “9. Measure”, above.
It is not necessary to enter the style and section for each measure when the same style and section are to be repeated.
When a style is turned OFF, a corresponding blank section is produced during pattern playback (playback does not stop).
Pattern playback will stop when the “END” is reached.

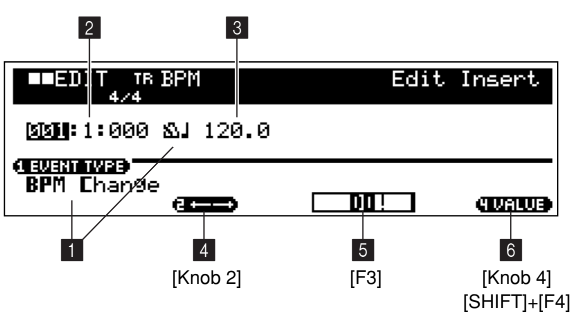
NOTE
- For more information on styles and sections refer to “Chapter 1: Basics”, page 59.
- Sections A through J can be selected directly via the black keys on the keyboard when the [KEYBOARD] button indicator is lit. (Page 72)

13 CLEAR .... [F3]

Clears the style or section at the cursor position.

Insert Page

Press [F3] (INSERT) from the phrase EDIT page to access this page.



1 Event

[Settings]

BPM Track

- **Tempo Change: 001.0 ~ 300.0 BPM**
  ....Tempo change events.

SCENE/MUTE Track

- **Scene Memory Number: Scene Memory 1 ~ 5**
  ....Recalls a scene memory.
- **Mute Memory Number: Mute Memory 1 ~ 5**
  ....Recalls a mute memory.
- **Track Mute: Track Mute ■■■□□■■■□□■■■□□■**
  ....Track mute on/off events. Tracks 1 ~ 16 are displayed in order from left to right. ■ indicates that mute is off; □ indicates that mute is on.

Selects the type of event to be inserted.
For details about the event types and their parameters refer to “Chapter 7: Other Information”, page 263.

2 Measure, Beat, and Clock

[Settings]

Measure	**001 ~ 999**
Beat	**1 ~ 16 (depends on meter)**
Clock	**000 ~ 479 (depends on meter)**

Specifies the location at which the new event will be inserted.

3 Parameter

The value for selected event. The available parameter(s) depends on the type of event selected.

4 ← → (Cursor ← and →)................................. [Knob 2]

Moves the cursor left or right to select the parameter to be set for the current event.

5 DO! .... [F3]

Inserts the specified event.

6 VALUE ....[Knob 4], [SHIFT]+[F4]

Adjusts the value of the selected parameter.

3 The Pattern Chain Mode

Chapter 4. The Song Mode

About the Song Mode 180
1. Song Playback.. 182
2. Song Recording 184
3. Adding Groove to a Pattern 191
4. Play Effects.. 192
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6. Adjusting Level and Effects for Each Track (Mixer) 194
7. Changing the Sound of Voices (Voice Edit) 196
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9. Arpeggio & Assignable Knob Settings (Setup)... 200
10. Master EQ and Effects 202
11. Saving to Memory Card or Disk............... 204
12. Loading from Memory Card or Disk........ 208
13. The Song Jobs 212
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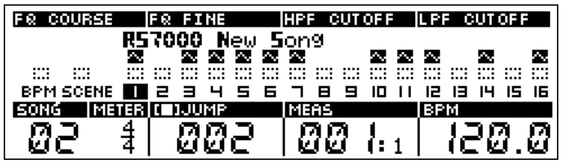
About the Song Mode

This mode is used to play and create songs.
Press the [SONG] button to enter the SONG Play mode, and the Song Play page will appear on the LCD.

Song Play



NOTE

For more information on songs see “Chapter 1: Basics”, page 60.

Sub Modes of the Song Mode

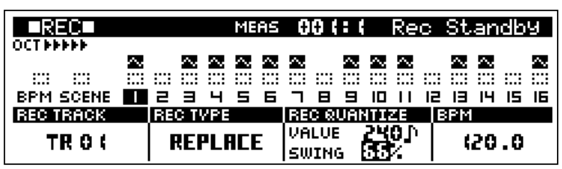
The SONG MODE is made up of the following 14 sub-modes.

● Song Play...(Page 182)

Songs can be selected and played. This display page always appears first when the SONG mode is engaged.

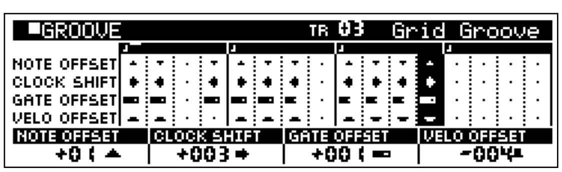
● Song Recording...(Page 184)

Original songs are recorded in this mode.



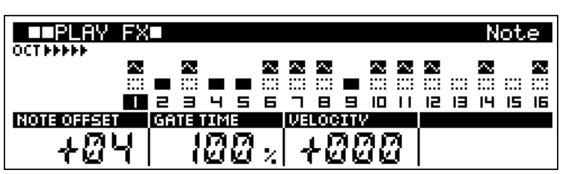
● Groove...(Page 191)

Allows groove and feel variations to be applied to individual tracks.



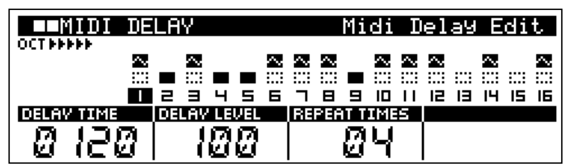
● Play Effects...(Page 192)

Add depth and harmony to individual tracks.



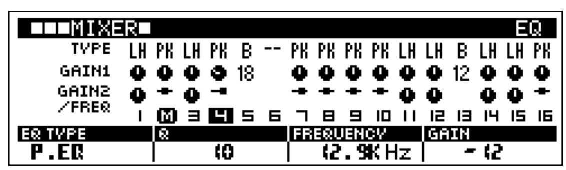
● MIDI Delay...(Page 193)

Adds a special MIDI-based delay effect to individual tracks.



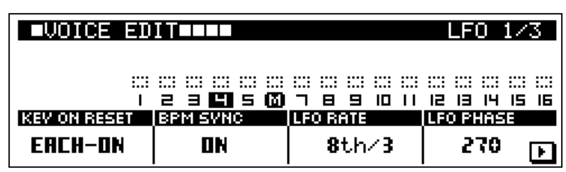
● Mixer...(Page 194)

Individually adjusts the volume, effect level and other parameters for each track.



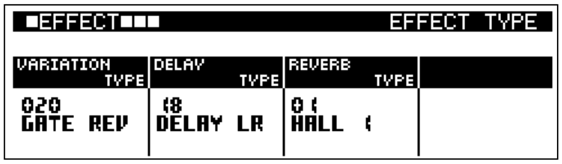
● Voice Edit...(Page 196)

Edits the voices assigned to each track.



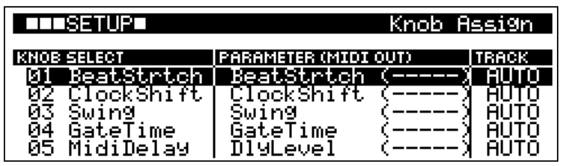
● **Effect...(Page 198)**

Sets the effects for the REVERB, DELAY/CHORUS, and VARIATION effect stages.



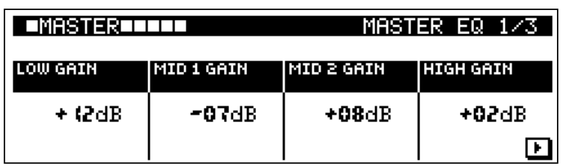
● **Setup...(Page 200)**

Provides access to the arpeggiator, knob assignment, and channel settings.



● **Master...(Page 202)**

Provides access to the master EQ and master effect settings.

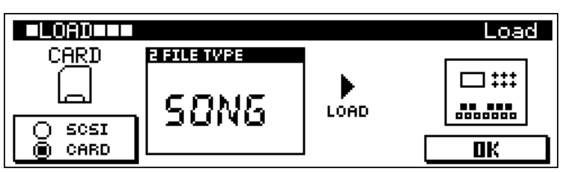


● **Save...(Page 204)**

Saves data to memory card or disk.

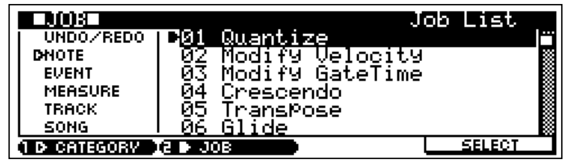
● **Load...(Page 208)**

Loads data from memory card or disk.



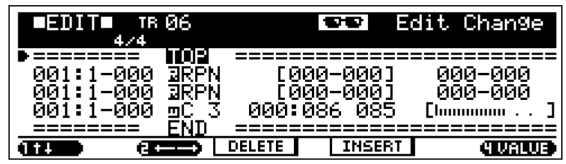
● **Job...(Page 212)**

Accesses the song editing jobs.



● **Song Edit...(Page 225)**

Allows editing or insertion of new data in recorded songs.



4

The Song Mode

1. Song Playback

Select and play songs.
This display always appears first when the [SONG] button is pressed to enter the SONG mode.

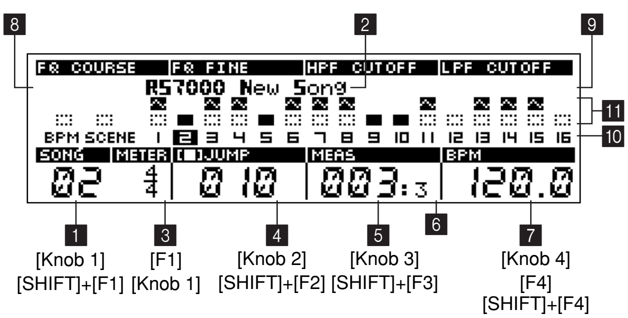
Song Playback Procedure

1. Select the playback SONG number.
2. When the [PLAY] button is pressed the PLAY indicator will flash and song playback will begin.
3. Press [STOP] to stop playback.

NOTE

- The parameters in the SONG Play page can be changed during song playback. Changes made during playback are saved as song data (when MEMORY PROTECT is OFF).
- When the UTILITY mode VOICE SETUP TO TG (Page 261) parameter is OFF, the mixer, voice edit, and effects will not change when a different song is selected.
- Press [START] while holding [SHIFT] for repeat song playback.

Display Parameters



1 SONG (Song Number)

.... [Knob 1], [SHIFT]+[F1] → Numeric Keypad

2 Song Name

[Settings] **Song Number** **01 ~ 20**
Song Name **Display only**

The song to be played back is selected by specifying the song number.
Refer to "13. The Song Jobs", page 212 for information on entering song names.

3 Meter .... [F1] → [Knob 1]

[Settings] 1/16 ~ 16/16, 1/8 ~ 16/8, 1/4 ~ 8/4

Sets the meter (time signature) of the song.
Press [F1] to move the cursor to METER, and then use [Knob 1].

4 JUMP .... [Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings] OFF, 001 ~ 999

Specifies the measure to which the song position will jump when playback is stopped.
Press [STOP] while holding [SHIFT] to set the current measure for jump location. This can be turned OFF by pressing [◄◄] or [►►] while holding [SHIFT].

5 Measure .... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

6 Beat

[Settings] **Measure** **001 ~ 999**
Beat **01 ~ 16 (display only)**

Show the current measure number and beat during playback.

NOTE

The |◄, ◄◄, and ►► buttons can also be used to change the measures number (also during playback).

7 BPM (Tempo)

.... [Knob 4], [F4] → [Knob 4], [SHIFT]+[F4] → Numeric Keypad

[Settings] 001.0 ~ 300.0 (BPM)

Sets the song playback tempo.
Use [Knob 4] to adjust the BPM in steps of 1, or press [F4] to move the cursor to the right of the decimal point and use [Knob 4] to adjust in steps of 0.1.

> **NOTE**
> BPM can also be set by using the [TAP] button (Page 68).

8 OCT (Octave)

[Settings] -5 octaves ~ +5 octaves

Shows the current octave setting of the keyboard.
Each "◀" on the display corresponds to one octave down, and each "▶" corresponds to one octave up.
The keyboard octave can be changed by pressing the [KEY-BOARD] button so that its indicator goes out, and then using the [OCT DOWN] and [OCT UP] buttons to set the octave.
Press the [OCT DOWN] and [OCT UP] buttons simulta-neously to restore the normal keyboard octave settings (no octave shift).

9 Transpose

[Settings] -36 ~ 0 ~ +36 (semitones)

Transposes the pitch of song playback.
Transposition is set in semitone increments. A setting of "12" transposes by one octave.

[Procedure]
The transpose procedure is the same as in the PATTEN mode (Page 73).

10 Track

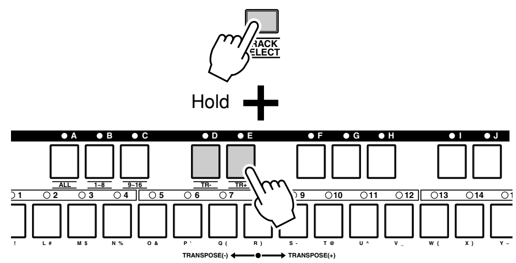
[Settings] BPM, SCENE, 1 ~ 16

BPM .... BPM Track
SCENE.............. Scene/Mute Track
1 ~ 16 .... Sequence Track

Shows the track type and numbers.
The currently selected track number is highlighted.

[Track Selection Procedure]
Except for BPM track and SCENE/MUTE track functions the track selection procedure is the same as in the PATTERN mode (Page 73).

The BPM track and SCENE/MUTE track are selected by holding the [TRACK SELECT] button and pressing the [TR-] or [TR+] button.



11 Track Status

Indicate whether the corresponding track contains data, as well as the mute or solo status of the track.
■: The track contains sequence data.
⬚: The track is empty.
[M]: The track is muted (no sound will be produced by this track).
[S]: The track is soloed (all other tracks are temporarily muted and only this track will sound).
[Sample icon]: Sample data is assigned to this track.

[Mute & Solo Setting Procedure]
The mute and solo setting procedure is the same as in the PAT-TEN mode (Page 74).

4 The Song Mode

2. Song Recording

Create original sequences by recording performance data to the song tracks. Three recording modes are available: real-time recording, step recording, and grid-step recording. Punch-in real-time recording is also available.

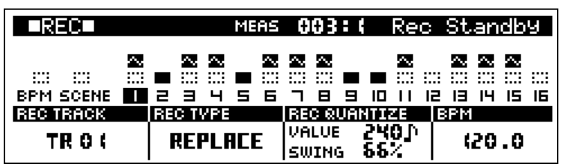
> **NOTE**
> Before beginning recording, make sure that the UTILITY mode MEMORY PROTECT function is "OFF" (Page 257). Recording is not possible when memory protection is turned on.

The Song Recording Display

Song Recording has the following display pages.

● Record Standby (Page 184)

This page is used to prepare for recording performance data to the currently selected song.



● Real-time Record (Page 186)

This recording mode allows notes played via the RS7000 keyboard and velocity pads, variations applied via the assignable knobs, and performance data from external MIDI devices, to be recorded in real time. Recording can be carried out while monitoring playback of other tracks.

● Real-time Record: Replace (Page 186)

Any previous data in the recorded track will be erased (overwritten) and replaced by the new performance data. This is handy when you need to re-record the same part several times.

● Real-time Record: Overdub (Page 186)

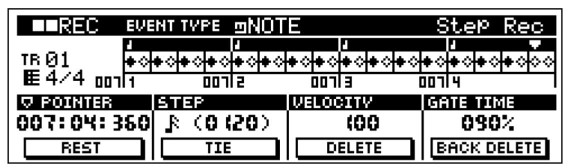
This mode allows material to be added to existing material on a track. Previous performance data will not be erased. This makes it easy to create parts by recording them a little at a time.

● Real-time Record: Punch (Page 187)

Real-time recording is carried out between specified punch-in and punch out points. This allows you to record a specified section of a previously-recorded track without having to re-record the entire track. This recording mode overwrites any data previously in the recorded range.

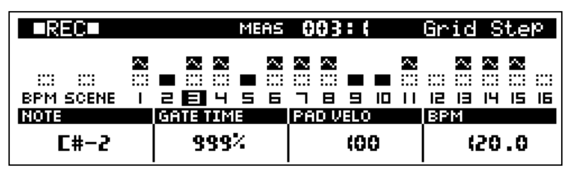
● Step Record (Page 187)

This mode allows notes to be entered one at a time. Step recording makes it easy to create songs even if you can't play the parts in real time.
Notes are entered by first specifying the note type, and then the note pitch via the keyboard.



● Grid-Step Record (Page 189)

As in the Step record mode, notes are entered one at a time.
After specifying the note's pitch, the note is entered at the grid position (timing) specified by the keyboard.
This method is particularly useful when entering drums and sequenced phrases which use consecutive notes of the same pitch.



Record Standby

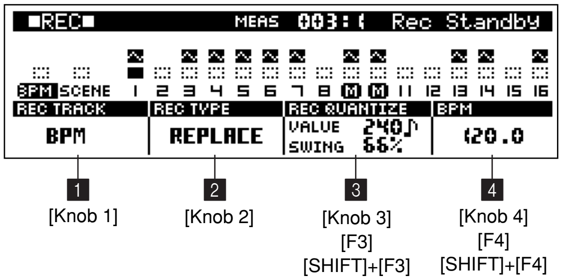
Prepare to record to the currently selected song by selecting the record track, record type, and other parameters.

Record Standby Procedure

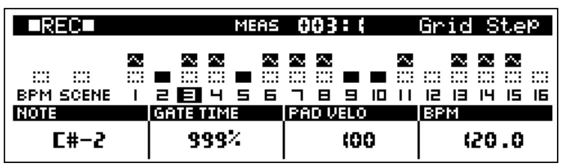
1. Press [SONG] to engage the SONG Play mode.
2. Use [Knob 1] (SONG) to select the song to be recorded.
3. Press the [REC] button to go to the Rec Standby display.

Display Parameters

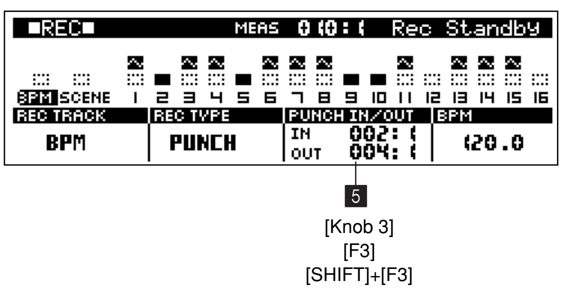
REC TYPE = REPLACE or OVERDUB



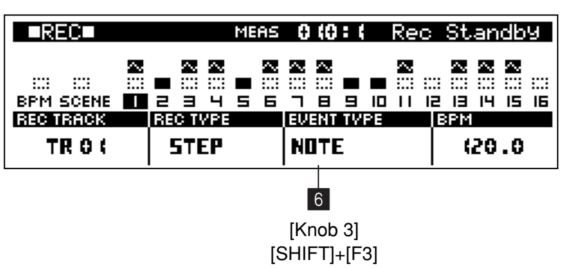
REC TYPE = GRID



REC TYPE = PUNCH



REC TYPE = STEP



1 REC TRACK (Record Track) .... [Knob 1]

[Settings] TR1 ~ 16, MULTI, BPM, SCENE

TR1 ~ 16 .... **Selects a sequence track for recording.**

MULTI .... **Simultaneous recording to all 16 sequence tracks. Multi-channel data from an external MIDI device can be recorded at once. MIDI channels 1 through 16 are assigned to the correspondingly numbered tracks.**

BPM .... **Allows recording of BPM (tempo) data.**

SCENE(SCENE/MUTE)
.... **Records SCENE/MUTE memory changes or keyboard track mute operations.**

Selects the record track.

> **NOTE**
> Use the MULTI setting to record a number of tracks from an external MIDI sequencer, or from a multi-channel instrument such as MIDI guitar.

2 REC TYPE (Record Type) .... [Knob 2]

[Settings] REPLACE, OVERDUB, PUNCH, STEP, GRID

Selects the record mode.
For more details on each record mode see "2. Song Recording" on the previous page.

> **NOTE**
> - The STEP and GRID record types cannot be selected when the REC TRACK parameter is set to MULTI.
> - The OVERDUB and GRID record types cannot be selected when the REC TRACK parameter is set to BPM.
> - The STEP, OVERDUB and GRID record types cannot be selected when the REC TRACK parameter is set to SCENE.

3 REC QUANTIZE (Record Quantize)

... [Knob 3], [F3] → [Knob 3], [SHIFT]+[F3] → Numeric Keypad

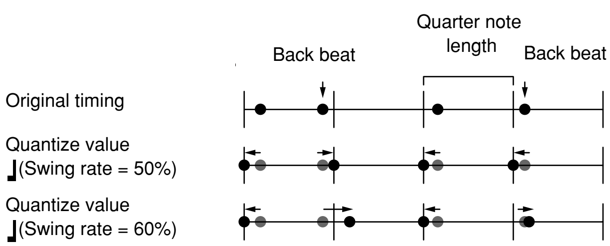
[Settings]
VALUE

OFF, 60 (32nd note), 80 (16th note triplet), 120 (16th note), 160 (8th note triplet), 240 (8th note), 320 (1/4 note triplet), 480 (1/4 note)

SWING

OFF when VALUE = OFF
50% ~ 75% when VALUE =
60, 120, 240, 480
66% ~ 83% when VALUE =
80, 160, 320

Record quantize aligns the timing of notes which are not exactly on the beat on-the-fly as you record.
The record quantize parameters can be set in the Rec Standby mode when the REPLACE or OVERDUB record type is selected.
The quantize VALUE parameter specifies the note timing to which the nearest recorded notes will be aligned.
The quantize SWING parameter specifies by how much the timing of notes on even-numbered beats (back beats) will be delayed to create a swing feel.
When a triplet VALUE is specified, the last note of each triplet is affected by the SWING parameter.



To adjust the SWING parameter, press [F3] to move the cursor to SWING, then use [Knob 3] to adjust.

> **NOTE**
> - When the OVERDUB record type is selected, quantization will also be applied to the existing data in the track.
> - When record quantize is not OFF, quantization is applied to all controller data in addition to the note data. Use the Quantize job to quantize only the note data.

4 BPM (Tempo)

.... [Knob 4], [F4] → [Knob 4], [SHIFT]+[F4] → Numeric Keypad

This parameter has the same effect as in the SONG Play mode. See page 183 for details.

5 Punch-in Point, Punch-out Point

.... [Knob 3], [F3] → [Knob 3], [SHIFT]+[F3] → Numeric Keypad

Can be set when the REC TYPE is set to PUNCH.

[Settings]
IN....................... 001:1 ~ 999:4
OUT................... 001:1 ~ 999:4

Set the punch-in and punch-out points for PUNCH real-time recording.
Use [F3] to move the cursor to IN or OUT, and [Knob 3] to set these values as required.
For example, first use [Knob 3] to enter the IN measure, then press [F3] to move the cursor and use [Knob 3] to set the OUT measure. [F3] can then be used to move the cursor to the IN beat and OUT beat parameters, which can also be set as required by using [Knob 3].

6 EVENT TYPE

.... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

When the STEP record type is selected this parameter specifies the type of event to be recorded.

[Settings] NOTE, PITCH BEND, CC[000] ~ CC[119] (Control Change), BPM Change (when the BPM track is selected)

NOTE .... note data is recorded.
PITCH BEND .... pitch bend change data is recorded.
CC[000] ~ CC[119]........ the corresponding control change data is recorded: volume, pan, expression, etc.
BPM .... tempo change data is recorded.

Specifies the type of data to be recorded.
Numeric key input is valid only when inputting control change numbers.

Real-Time Recording

Real-time recording allows anything played on the RS7000 keyboard, operation of the assignable knobs, and data received from an external MIDI controller to be recorded in real time.
In this section we'll look at the real-time REPLACE, OVERDUB, and PUNCH recording procedure.

Record Procedure (REPLACE, OVERDUB)

1. Press [SONG] to enter the SONG Play mode.
2. Use [Knob 1] (SONG) to select the song to be recorded.
3. Press [REC] to engage the Rec Standby mode.
4. Use [Knob 1] (REC TRACK) to select the record track.
5. Press [MIXER] to access the Voice Select display and use [Knob 1] (BANK) and [Knob 3] (PROGRAM) to select the desired voice, then press [EXIT] to return to the Rec Standby display.
6. Use [Knob 2] (REC TYPE) to select the REPLACE or OVERDUB record type.
   Also use [Knob 3] and [F3] to set up record quantize, and [Knob 4] to set the BPM as required.

NOTE

- The OVERDUB and GRID record types cannot be selected when the REC TRACK parameter is set to BPM.
- The STEP, OVERDUB and GRID record types cannot be selected when the REC TRACK parameter is set to SCENE.

7. Press [PLAY] and begin recording after the count-in.
8. Play the part on the keyboard, velocity pads, and assignable knobs.

NOTE

- Voices can be selected in the MIXER sub mode (Page 194).
- BPM changes produced by operating [Knob 4] can be recorded when the BPM track is selected for recording.
- When the SCENE (Scene/Mute) track is selected, SCENE and MUTE changes can be recorded by pressing the [MEMORY 1] ~ [MEMORY 5] buttons. Also, track mute operations can be recorded by pressing the [MUTE] button so that its indicator lights, and then using the keyboard to mute and un-mute tracks as required.

9. Stop recording and return to the SONG Play mode by pressing the [STOP] button.

NOTE

Pressing [JOB] while holding [SHIFT] directly accesses the "Undo/Redo" phrase job (Page 213), allowing the previous record operation to be undone. This is useful if, for example, you've accidentally erased material on a track you wanted to keep by recording in the REPLACE mode.

Record Procedure (Punch)

Steps 1 ~ 5 are the same as for Replace or Overdub recording, above.

6. Use [Knob 2] (REC TYPE) to select the PUNCH record type. Also use [Knob 3], [F3] → [Knob 3] to set up punch-in and punch-out points.
   If necessary, use [Knob 4] to adjust BPM.
7. Press [PLAY] and begin recording after the count-in.
   - Recording will begin automatically when the punch-in point is reached, and recording will be disengaged when the punch-out point is reached.

   All steps from 8 onward are the same as for Replace or Overdub recording, above.

Step Recording

Notes, pitch bend data and control data can be recorded step-by-step.

Record Procedure

1. Press [SONG] to enter the SONG Play mode.
2. Use [Knob 1] (SONG) to select the song to be recorded.
3. Press [REC] to engage the Rec Standby mode.
4. Use [Knob 1] (REC TRACK) to select the record track.
5. Press [MIXER] to access the Voice Select display and use [Knob 1] (BANK) and [Knob 3] (PROGRAM) to select the desired voice, then press [EXIT] to return to the Rec Standby display.
6. Use [Knob 2] (REC TYPE) to select the STEP record type.
7. Use the EVENT TYPE parameter to specify the type of data you want to record: note, pitch bend, control change.
8. Press [PLAY] to go to the STEP recording page.

NOTE

If the BPM track is selected for recording, the event type will be set at BPM and cannot be changed.

● Recording Notes

9. Use [Knob 1] (POINTER) to move the pointer to the position at which you want to enter a note, [Knob 2] (STEP) to set the note length, [Knob 3] (VELOCITY) to set the note velocity, and [Knob 4] (GATE TIME) to set the gate time.
10. Enter the note by pressing the appropriate key on the keyboard.
    Press [F1] (REST) to enter a rest, or [F2] (TIE) to enter a tie. The [F3] (DELETE) and [F4] (BACK DELETE) buttons can be used to delete entered notes.

NOTE

In the step record mode notes are actually entered when the keys are released. So when entering chords be sure to press all notes you want to enter before releasing the keys.

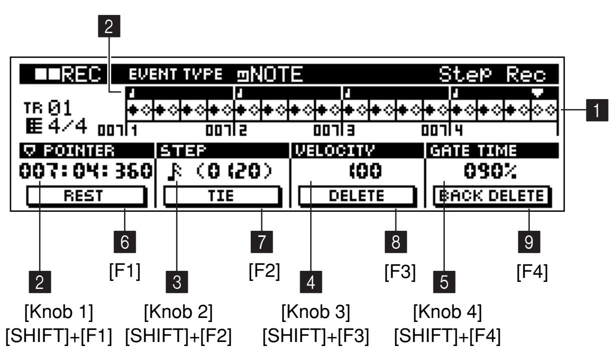
11. If you press the [PLAY] button the [PLAY] indicator will flash and you will be able to hear how your step-recorded song is shaping up. Press [STOP] to stop playback and continue entering notes in the step mode.
12. Stop recording and return to the SONG Play mode by pressing the [STOP] button.

● Recording Pitch Bend or Control Change Data

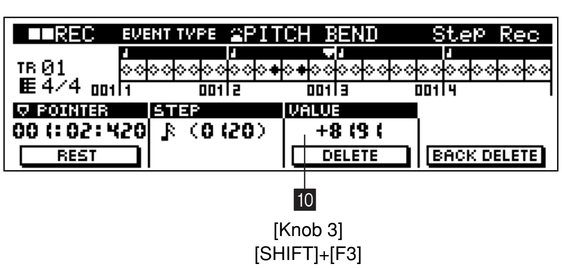
9. Use [Knob 1] (POINTER) to move the pointer to the position at which you want to enter the data, [Knob 2] (STEP) to set the data step size, and [Knob 3] (VALUE) to set the value.
   When you need to make large value changes rotate a knob while holding the [SHIFT] button to change values in increments of 10 rather than 1.
10. Enter the specified data by pressing a key on the keyboard. All keys have the same effect except when "KEYBOARD" is selected by [Knob 3] (VALUE), in which case the value entered depends on the key pressed.
   Press [F1] (REST) to enter a rest. The [F3] (DELETE) and [F4] (BACK DELETE) buttons can be used to delete entered notes.
11. Press the [PLAY] button the [PLAY] to hear how your step-recorded song is progressing. Press [STOP] to stop playback and continue entering data in the step mode.
12. Stop recording and return to the SONG Play mode by pressing the [STOP] button.

Display Parameters

When EVENT TYPE = NOTE



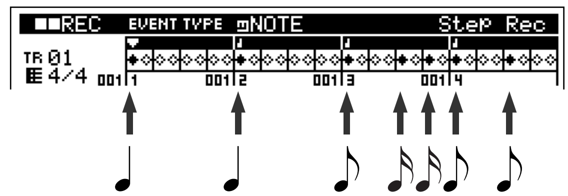
When EVENT TYPE is not NOTE



1 Beat Graph

This is the display in which notes are "placed" during step recording.
When the meter is 4/4, the display is divided into 4 beats (one measure).
Each diamond-shaped marker in the display represents 1 32nd beat (each 1/4 note division is divided into 8 32nd beats).

For example, if the following rhythmic pattern is entered in 4/4 time the display will appear like the one shown below.



2 POINTER ...... [Knob 1], [SHIFT]+[F1] → Numeric Keypad

Sets the data-entry position.
The triangular pointer above the beat graph indicates the data-entry position.
Rotating the [knob 1] causes the pointer to move left or right, accordingly.
Use [SHIFT] + [F1] → Numeric Keypad to directly enter a measure number.

3 STEP (Step Time)

.... [Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings]

Settings made via the knob

0001 ~ 0059, 32nd note, 16th note triplet, 16th note, 8th note triplet, 8th note, 1/4 note triplet, 1/4 note, half note, whole note

Settings made via the numeric keypad

0001 ~ 9999 clocks

Specifies the length of the note or rest to be entered.
When the PB or CC event type is selected this parameter specifies the step time:
the size of the step the pointer will move to the next position after an event is entered.

4 VELOCITY

.... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

[Settings] 001 ~ 127, RND1 ~ RND4 (random)

Specifies the velocity value with which the note will be entered.
The set value (1 ~ 127) corresponds to the MIDI velocity value entered.
When one of the random settings is selected (RND1 ~ RND4) a random velocity value will be entered.

5 GATE TIME

.... [Knob 4], [SHIFT]+[F4] → Numeric Keypad

[Settings] 001% ~ 200%

Sets the gate time to produce slurs, staccato notes, etc.

"Gate time" refers to the actual length of time the note sounds. For the same 1/4 note, for example, a long gate time will produce a slur while a short gate time will produce a staccato effect.
Gate time is indicated as a percent value of the step time.
A setting of 50% produces a staccato sound, values between about 80% and 90% produce normal note length, and a value of 99% will produce a slur.

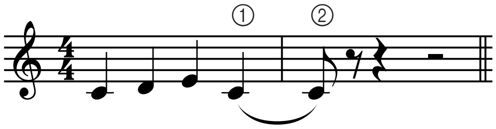
6 REST ....[F1]

Press [F1] to enter a rest as long as the specified step time. The point will move ahead to the next data-entry position. Rests do not appear on the display.

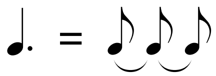
> **NOTE**
> There is no actual data representing rests. When a "rest" is inserted the pointer simply moves ahead to the next data-entry position, effectively leaving a rest.

7 TIE ....[F2]

When [F2] is pressed to enter a tie the preceding note is lengthened to the full step time. For example, in the following phrase note ① is entered with 1/4 note step time. If the step time is then changed to an 8th note and [F2] is pressed, note ② is entered.



Dotted notes can also be entered using the TIE function. To produce a dotted 1/4 note, for example, enter the step time to an 8th note, then press [F2] twice.



8 DELETE..[F3]

Deletes all notes at the current pointer position.
Rotate [Knob 1] (POINTER) while holding [F3] to delete all events the pointer passes.

9 BACK DELETE ....[F4]

Moves the pointer backward by one step and deletes all notes at that location.

> **NOTE**
> Mistakenly entered notes can be erased by pressing [F4] immediately after they are entered (before changing the step time value).

10 VALUE .... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

[Settings]

PITCH BEND

-8192 ~ +8191, KEYBOARD

CC

000 ~ 127, KEYBOARD

BPM

001.0 ~ 300.0

Sets the value of the data to be entered.
When KEYBOARD is selected the value can directly entered via the RS7000 keyboard.

[Procedure]

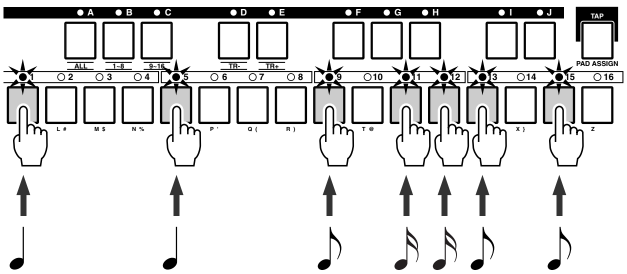
VALUE entry procedure is the same as in the PATTERN mode (Page 82).

Grid Step Recording

Like step recording, grid step recording allows notes to be recorded to a song track one at a time. With grid step recording, however, the pitch of the notes to be entered is specified first, and the data-entry position is specified via the keyboard. This method is particularly useful for entering drum patterns or sequences which use several consecutive notes of the same pitch.

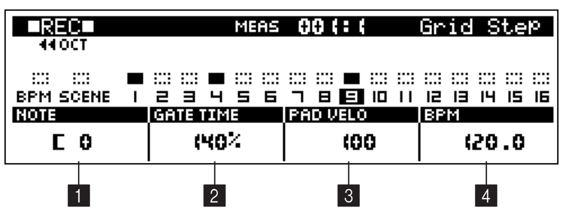
Record Procedure

1. Press [SONG] to enter the SONG Play mode.
2. Use [Knob 1] (SONG) to select the song to be recorded.
3. Press [REC] to engage the Rec Standby mode.
4. Use [Knob 1] (REC TRACK) to select the track to be recorded.
5. Press [MIXER] to access the Voice Select display and use [Knob 1] (BANK) and [Knob 3] (PROGRAM) to select the desired voice, then press [EXIT] to return to the Rec Standby display.
6. Use [Knob 2] (REC TYPE) to select the GRID record type.
7. Press [PLAY] and the Grid Step record display will appear.
8. Set the pitch of the notes to be entered via [Knob 1] (NOTE). If necessary also use [Knob 2] (GATE TIME) to set the gate time and [Knob 3] (VELOCITY) to set the note velocity.
9. Use the keyboard to specify the note-entry point on the grid. The grid divides a measure into 16th note divisions, and the 16 white keys on the keyboard correspond to each of these grid positions. The leftmost white key enters a note on the first beat of the measure, the 5th white key (B) enters a note right on the 2nd beat, and so on.
   A note is entered on the grid each time a white key is pressed and its indicator lights. Press the same white key a second time so that its indicator goes out to erase the note at that position.
   When the selected meter has more than 4 beats per measure (5/4, for example), notes from the 5th beat onward can be entered after pressing the [OCT UP] button. Press [OCT DOWN] to go back to beats 1 through 4.
   For example, this rhythmic pattern in 4/4 time can be entered as follows ( ).



10. Use the [◄◄] and [►►] buttons to move to the previous or next measure.
11. If you press the [PLAY] button the [PLAY] indicator will flash and you will be able to hear how your grid-recorded song is shaping up. Press [STOP] to stop playback and continue entering notes in the grid step mode.
12. Stop recording and return to the SONG Play mode by pressing the [STOP] button.

Display Parameters



[Knob 1]	[Knob 2]	[Knob 3]	[Knob 4]
			[F4]
	[SHIFT]+[F2]	[SHIFT]+[F3]	[SHIFT]+[F4]

1 NOTE...[Knob 1]

[Settings] C-2 ~ G8

Specifies the pitch of the notes to be entered.
In addition to using [Knob 1], the pitch can be specified by pressing a key on the keyboard while holding the [SHIFT] button.

2 GATE TIME

.... [Knob 2], [SHIFT]+[F2] → Numeric Keypad

[Settings] 001% ~ 999%

Sets the gate time as a percentage of the grid's 16th note steps.
Settings lower then 99% produce notes which are shorter then 16th notes, for a more staccato feel. Setting of 101% or higher produce a slur.

3 VELOCITY

.... [Knob 3], [SHIFT]+[F3] → Numeric Keypad

Has the same effect as the step recording parameter. Refer to page 188 in the "Step Recording" section for details.

4 BPM (Tempo)

.... [Knob 4], [F4], [SHIFT]+[F4] → Numeric Keypad

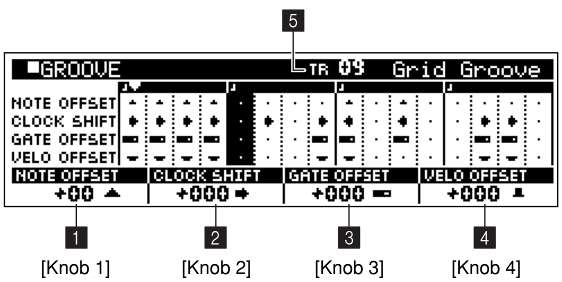
Has the same effect as the pattern play parameter. Refer to page 183 in the "Song Playback" section for details.

3. Adding Groove to a Pattern

The GROOVE function can be used to add groove and feel to songs.
This is accomplished by varying note timing, gate time, and velocity on an easy-to-use grid. By using the GROOVE function you can vary the feel of your songs over a wide range. Give dry-sounding patterns more drive, and in general make your grooves more musical.
Press the [GROOVE] button while in the SONG Play mode to access the Grid Groove display page.
The Groove features are the same as in the PATTERN mode (Page 85).

Display Parameters

[SONG] → [GROOVE]



1 **NOTE OFFSET** ....**[Knob 1]**

2 **CLOCK SHIFT** ....**[Knob 2]**

3 **GATE OFFSET** ....**[Knob 3]**

4 **VELO OFFSET (Velocity Offset)**..............**[Knob 4]**

5 **TR (Track)**

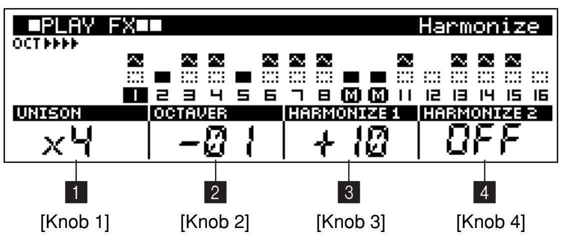
4. Play Effects

Play effects can be used to temporarily alter parameters such as gate time and velocity, or to add effects such as harmony to enhance the richness and depth of the sound during song playback. Play effects are set and applied via this sub mode. Three display pages are provided: Harmonize, Note, and Timing.
Press [PLAY FX] while in the SONG Play mode to access the play effects.
The Play Effect features are the same as in the PATTERN mode (Page 87).

Display Parameters

[1] Harmonize Page

[SONG] → [PLAY FX]



1 UNISON .... **[Knob 1]**

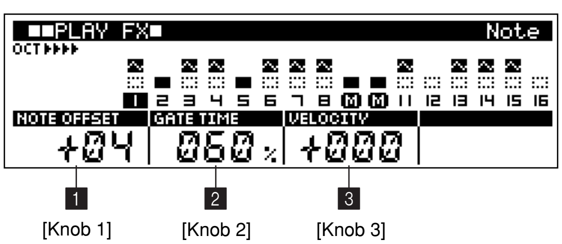
2 OCTAVER .... **[Knob 2]**

3 HARMONIZE 1 .... **[Knob 3]**

4 HARMONIZE 2 .... **[Knob 4]**

[2] Note Page

[SONG] → [PLAY FX] × 2



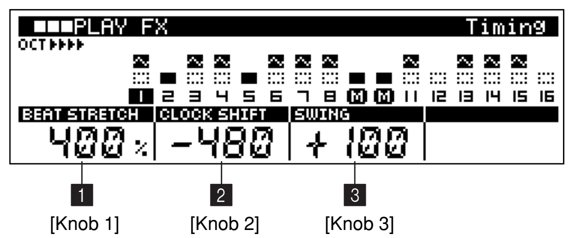
1 NOTE OFFSET .... **[Knob 1]**

2 GATE TIME .... **[Knob 2]**

3 VELO OFFSET (Velocity Offset) .... **[Knob 3]**

[3] Timing Page

[SONG] → [PLAY FX] × 3



1 BEAT STRETCH .... **[Knob 1]**

2 CLOCK SHIFT .... **[Knob 2]**

3 SWING .... **[Knob 3]**

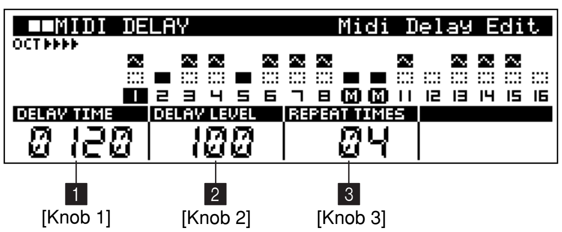
5. MIDI Delay

This sub mode can be used to apply a special MIDI delay effect to a song.
MIDI delay works by creating a copy of the original data which plays back several times slightly after the original data, thus simulating the sound of a normal delay effect. MIDI delay has some special features which aren't available with standard delay effects, however.
Two display pages are provided: MIDI Delay and Feedback.
From the SONG Play mode press the [MIDI DELAY] button to access the MIDI delay pages.
The MIDI Delay features are the same as in the PATTERN mode (Page 90).

Display Parameters

[1] MIDI Delay Page

[SONG] → [MIDI DELAY]

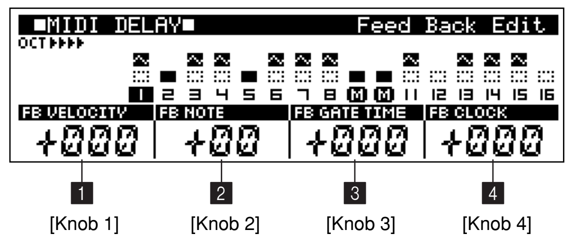


1 **DELAY TIME** ....[Knob 1]

2 **DELAY LEVEL** ....[Knob 2]

3 **REPEAT TIMES**...[Knob 3]

[2] Feedback Page



1 **FB VELOCITY (Feedback Velocity)**......... [Knob 1]

2 **FB NOTE (Feedback Note)** ....[Knob 2]

3 **FB GATE TIME (Feedback Gate Time)**.... [Knob 3]

4 **FB CLOCK (Feedback Clock)**...................... [Knob 4]

4

The Song Mode

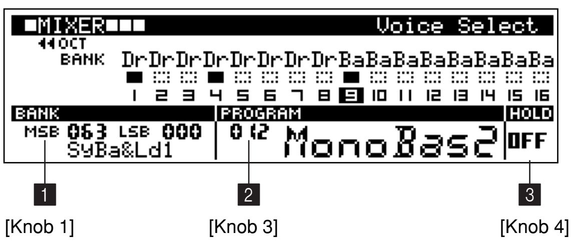
6. Adjusting Level and Effects for Each Track (Mixer)

**This sub mode is used to adjust song-playback volume levels, effect levels, and other parameters individually for each track. 4 pages are available: Voice Select, Volume/Pan/Out, Equalizer, and Effect Send. The equalizer parameters are available on 2 sub pages accessible via the [F1] and [F4] buttons. Press the [MIXER] button from the SONG Play mode to go to the MIXER Voice Select page.
The Mixer features are the same as in the PATTERN mode (Page 93).**

Display Parameters

[1] Voice Select Page

[SONG] → [MIXER]



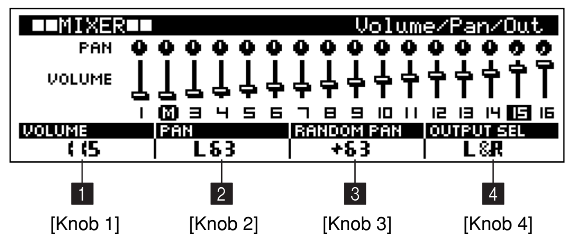
1 BANK MSB (Voice Bank MSB) .... **[Knob 1]**

2 PROGRAM (Program Number) .... **[Knob 3]**

3 HOLD (Voice Parameter Hold) .... **[Knob 4]**

[2] Volume/Pan/Out Page

[SONG] → [MIXER] × 2



1 VOLUME .... **[Knob 1]**

2 PAN .... **[Knob 2]**

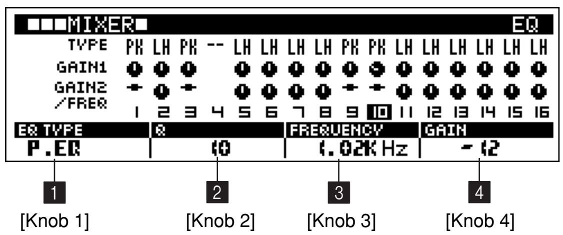
3 RANDOM PAN .... **[Knob 3]**

4 OUTPUT SEL (Output Select) .... **[Knob 4]**

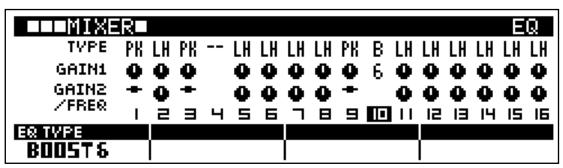
[3] Equalizer Page

[SONG] → [MIXER] × 3

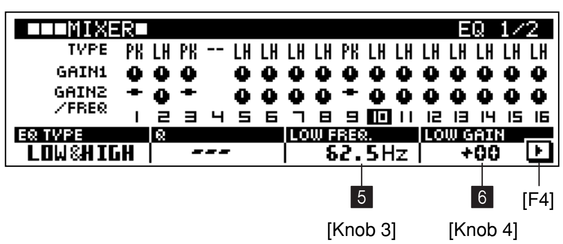
EQ TYPE = P.EQ

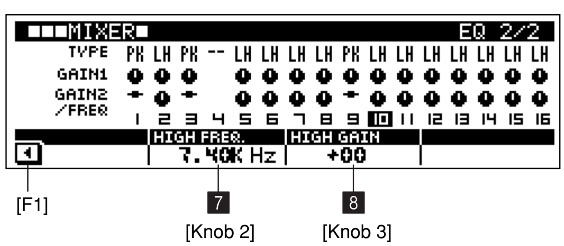


EQ TYPE = BOOST

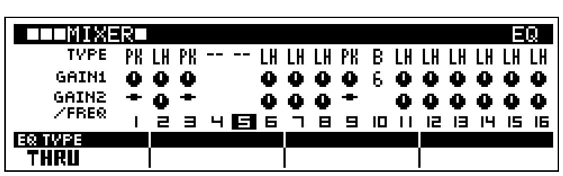


EQ TYPE = LOW&HIGH





EQ TYPE = THRU



1 EQ TYPE .... **[Knob 1]**

2 Q (Bandwidth) .... **[Knob 2]**

3 FREQUENCY .... **[Knob 3]**

4 GAIN (Output Select) .... **[Knob 4]**

5 LOW FREQ. (Low Frequency) .... **[Knob 3]**

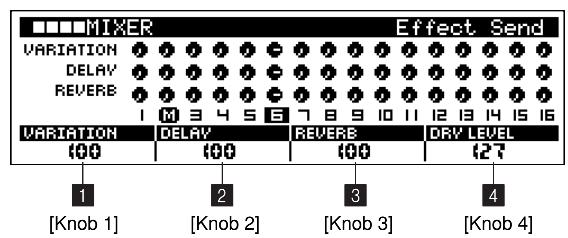
6 LOW GAIN .... **[Knob 4]**

7 HIGH FREQ. (High Frequency) .... **[Knob 2]**

8 HIGH GAIN .... **[Knob 3]**

[4] Effect Send Page

[SONG] → [MIXER] × 4



1 VARIATION .... **[Knob 1]**

2 DELAY .... **[Knob 2]**

3 REVERB .... **[Knob 3]**

4 DRY LEVEL .... **[Knob 4]**

4 The Song Mode

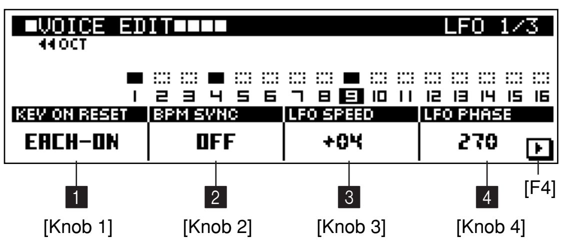
7. Changing the Sound of Voices (Voice Edit)

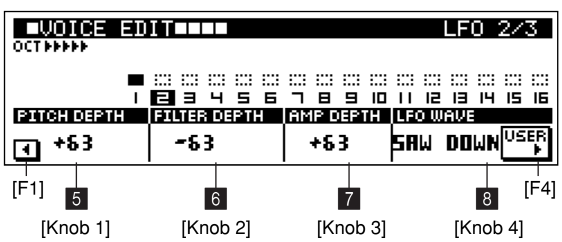
This sub mode allows voices to be edited for each song track. You can modify brightness, attack, and other parameters to make the sound your own. There are 5 main display pages: LFO, Portamento, Pitch, EG (Envelope Generator), and Filter. The LFO and EG pages each have 3 sub pages accessible via the [F1] and [F4] buttons.
Press the [VOICE EDIT] button from the SONG Play mode to go to the VOICE EDIT LFO page.
The Voice Edit features are the same as in the PATTERN mode (Page 97).

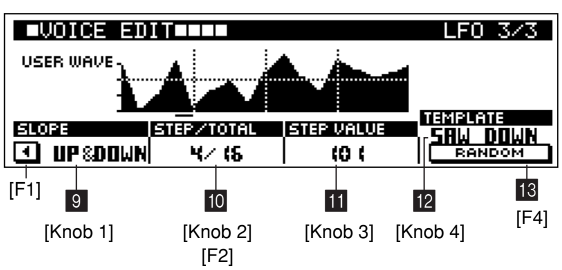
Display Parameters

[1] LFO Page

[SONG] → [VOICE EDIT]







1 **KEY ON RESET** .... [Knob 1]

2 **BPM SYNC (BPM Synchronization)** .... [Knob 2]

3 **LFO SPEED** .... [Knob 3]

4 **LFO PHASE** .... [Knob 4]

5 **PITCH DEPTH** .... [Knob 1]

6 **FILTER DEPTH** .... [Knob 2]

7 **AMP DEPTH** .... [Knob 3]

8 **LFO WAVE** .... [Knob 4]

9 **SLOPE** .... [Knob 1]

10 **STEP/TOTAL** .... [Knob 2], [F2] → [Knob 2]

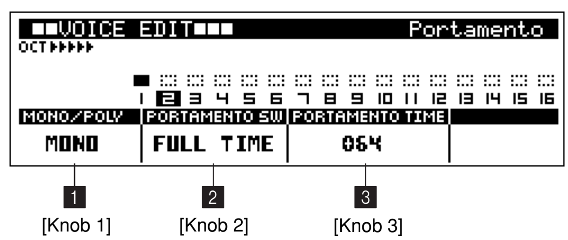
11 **STEP VALUE** .... [Knob 3]

12 **TEMPLATE** .... [Knob 4]

13 **RANDOM** .... [F4]

[2] Portamento Page

[SONG] → [VOICE EDIT] × 2



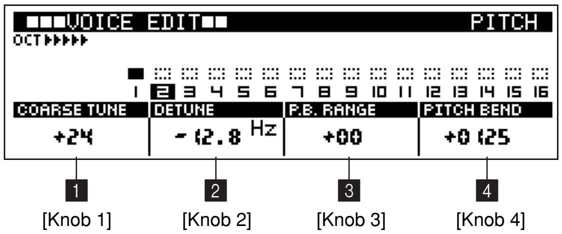
1 **MONO/POLY** .... [Knob 1]

2 **PORTAMENTO SW (Portamento Switch)** .... [Knob 2]

3 **PORTAMENTO TIME** .... [Knob 3]

[3] Pitch Page

[SONG] → [VOICE EDIT] × 3



1 COARSE TUNE .... [Knob 1]

2 DETUNE .... [Knob 2]

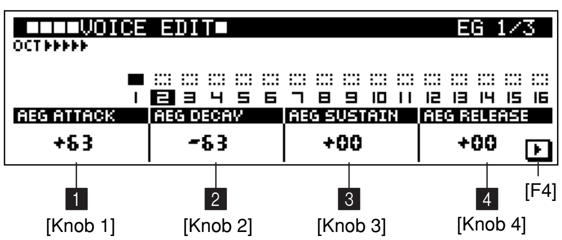
3 P.B. RANGE (Pitch Bend Range) .... [Knob 3]

4 PITCH BEND .... [Knob 4]

[4] EG Page

[SONG] → [VOICE EDIT] × 4

■ AEG Page



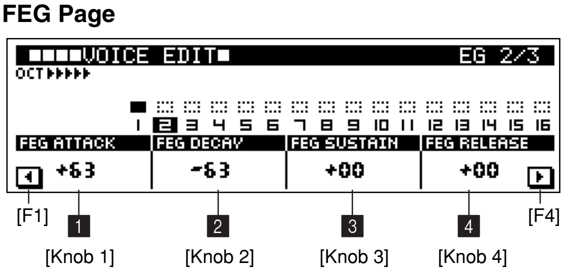
1 AEG ATTACK (Amplitude Envelope Generator Attack) .... [Knob 1]

2 AEG DECAY (Amplitude Envelope Generator Decay) .... [Knob 2]

3 AEG SUSTAIN (Amplitude Envelope Generator Sustain) .... [Knob 3]

4 AEG RELEASE (Amplitude Envelope Generator Release) .... [Knob 4]

■ FEG Page



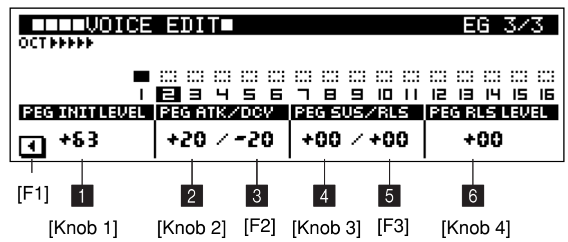
1 FEG ATTACK (Filter Envelope Generator Attack) .... [Knob 1]

2 FEG DECAY (Filter Envelope Generator Decay) .... [Knob 2]

3 FEG SUSTAIN (Filter Envelope Generator Sustain) .... [Knob 3]

4 FEG RELEASE (Filter Envelope Generator Release) .... [Knob 4]

■ PEG Page



1 PEG INIT LEVEL (Pitch Envelope Generator Initial Level) .... [Knob 1]

2 PEG ATK (Pitch Envelope Generator Attack) .... [Knob 2]

3 PEG DCY (Pitch Envelope Generator Decay) .... [F2] → [Knob 2]

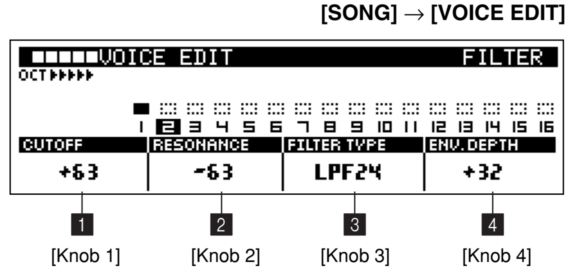
4 PEG SUS (Pitch Envelope Generator Sustain) .... [Knob 3]

5 PEG RLS (Pitch Envelope Generator Release) .... [F3] → [Knob 3]

6 PEG RLS LEVEL (Pitch Envelope Generator Release Level) .... [Knob 4]

[5] Filter Page

[SONG] → [VOICE EDIT] × 5



1 CUTOFF (Filter Cutoff Frequency) .... [Knob 1]

2 RESONANCE .... [Knob 2]

3 FILTER TYPE .... [Knob 3]

4 ENV. DEPTH (Envelope Depth) .... [Knob 4]

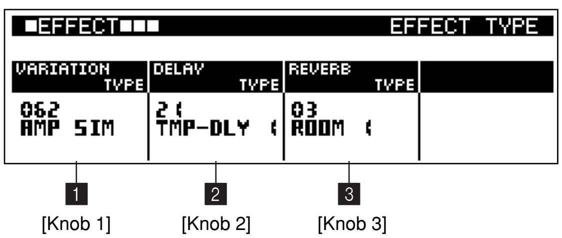
8. Adding Effects

This mode is used to select effects for song playback and change the effects settings as required. 4 pages are available: Effect Type, Variation Parameters, Delay/Chorus Parameters, and Reverb Parameters. The Variation Parameters are available on 5 sub pages accessible via the [F1] and [F4] buttons, the Delay/Chorus Parameters are available on 4 sub pages accessible via the [F1] and [F4] buttons, and the Reverb Parameters are available on 3 sub pages accessible via the [F1] and [F4] buttons.
Press the [EFFECT] button from the SONG Play mode to go to the EFFECT mode.
The Effect features are the same as in the PATTERN mode (Page 104).

Display Parameters

[1] Effect Type Page

[SONG] → [EFFECT]



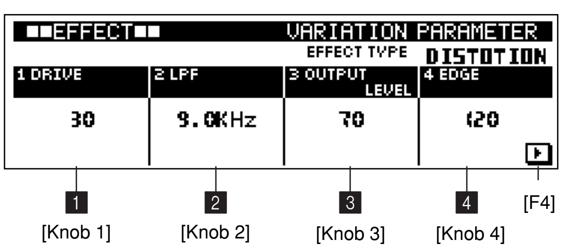
1 **VARIATION TYPE**...**[Knob 1]**

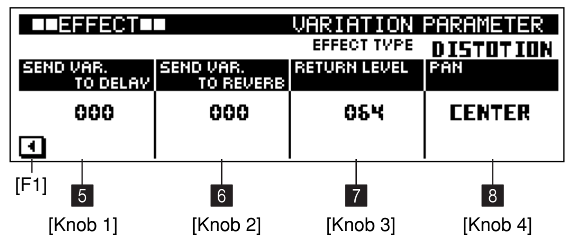
2 **DELAY TYPE**...**[Knob 2]**

3 **REVERB TYPE**..**[Knob 3]**

[2] Variation Parameter Page

[SONG] → [EFFECT] × 2





1 ~ 4 **EFFECT PARAMETERS**
....**[Knob 1] ~ [Knob 4]**

5 **SEND VAR. TO DELAY** ....**[Knob 1]**

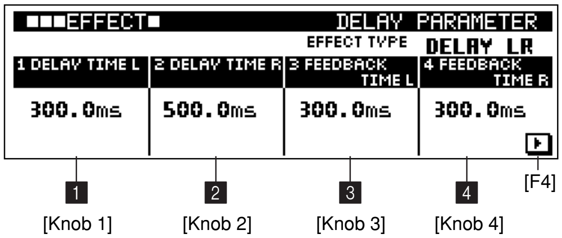
6 **SEND VAR. TO REVERB** .... **[Knob 2]**

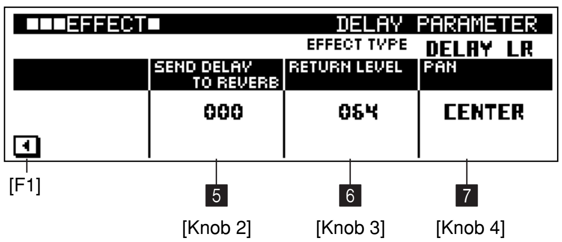
7 **RETURN LEVEL**.. **[Knob 3]**

8 **PAN (Variation Pan)**.. **[Knob 4]**

[3] Delay/Chorus Parameter Page

[SONG] → [EFFECT] × 3





1 ~ 4 EFFECT PARAMETERS ....[Knob 1] ~ [Knob 4]

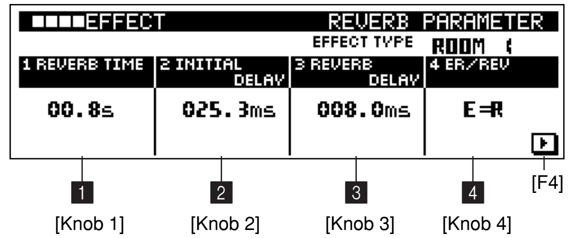
5 SEND DELAY TO REVERB ....[Knob 2]

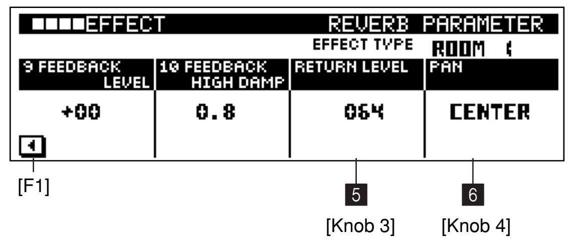
6 RETURN LEVEL ....[Knob 3]

7 PAN (Delay Pan) ....[Knob 4]

[4] Reverb Parameter Page

[SONG] → [EFFECT] × 4





1 ~ 4 EFFECT PARAMETERS ....[Knob 1] ~ [Knob 4]

5 RETURN LEVEL .... [Knob 3]

6 PAN (Reverb Pan) .... [Knob 4]

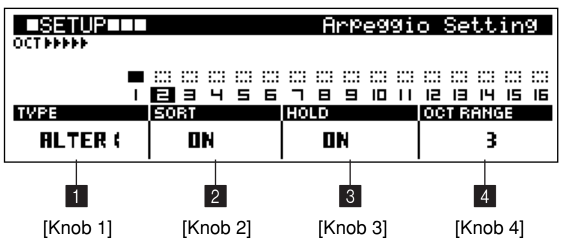
9. Arpeggio & Assignable Knob Settings (Setup)

This sub mode is used to set up arpeggios, the assignable knobs, and other RS7000 functions. 4 pages are available: Arpeggio Setting, A/D Setup, Knob Assign, and MIDI Out Channel. The A/D Setup parameters are available on 3 sub pages accessible via the [F1] and [F4] buttons.
Press the [SETUP] button from the SONG Play or Patch mode to go to the SETUP mode.
Features and details are the same as in the PATTERN mode (Page 107).

Display Parameters

[1] Arpeggio Setting Page

[SONG] → [SETUP]



1 **TYPE**..........[Knob 1]

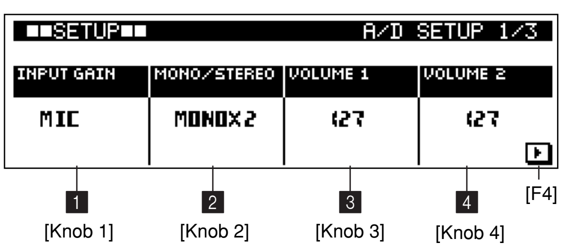
2 **SORT**..........[Knob 2]

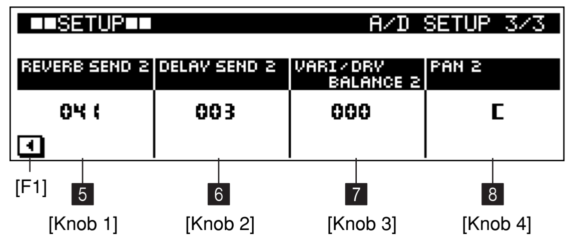
3 **HOLD**..........[Knob 3]

4 **OCT RANGE**..........[Knob 4]

[2] A/D Setup Page

[SONG] → [SETUP] × 2





1 **INPUT GAIN**..........[Knob 1]

2 **MONO/STEREO**..........[Knob 2]

3 **VOLUME 1**..........[Knob 3]

4 **VOLUME 2**..........[Knob 4]

5 **REVERB SEND LEVEL 1/2**..........[Knob 1]

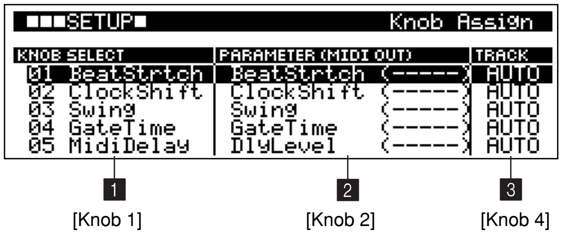
6 **DELAY SEND LEVEL 1/2**..........[Knob 2]

7 **VARIATION/DRY BALANCE 1/2**..........[Knob 3]

8 **PAN 1/2**..........[Knob 4]

[3] Knob Assign Page

[SONG] → [SETUP] × 3



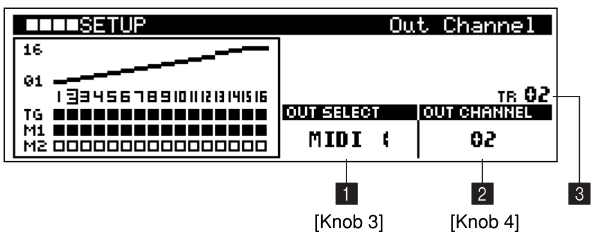
1 KNOB SELECT..........[Knob 1]

2 PARAMETER (MIDI OUT)..........[Knob 2]

3 TRACK..........[Knob 4]

[4] Out Channel Page

[SONG] → [SETUP] × 4



1 OUT SELECT..........[Knob 3]

2 OUT CHANNEL..........[Knob 4]

3 TR (Track)

4

The Song Mode

10. Master EQ and Effects

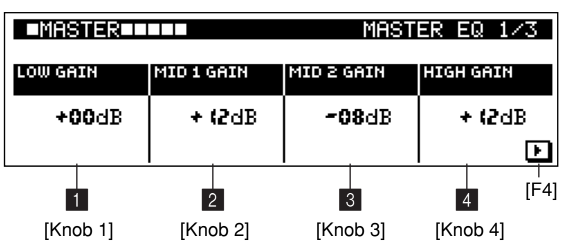
The MASTER sub mode provides access to the 4-band master EQ parameters which adjust the sound at the final output stage, and the master effect parameters.
TThe Master EQ parameters are available on 3 sub pages accessible via the [F1] and [F4] buttons, and the Master Effect parameters are available on 5 sub pages accessible via the [F1] and [F4] buttons.
Press the [MASTER] button from the SONG Play mode to go to the MASTER mode.
Master settings effect all styles and songs.
The Master EQ and Effect features and details are the same as in the PATTERN mode (Page 111).

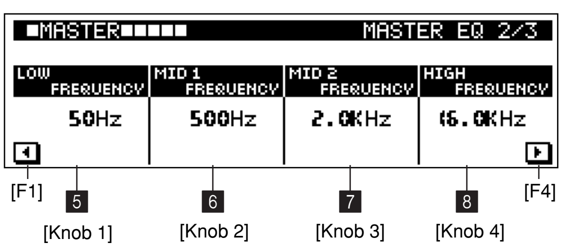
> **NOTE**
> The Master EQ and Effect features and details are the same as in “Chapter 2: The PATTERN mode” (Page 111).

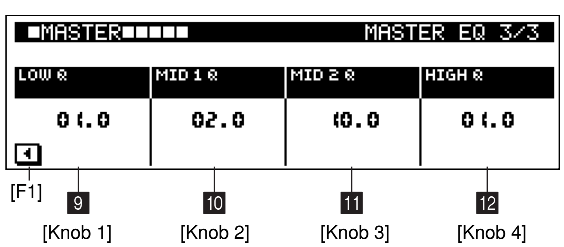
Display Parameters

[1] Master EQ Page

[SONG] → [MASTER]



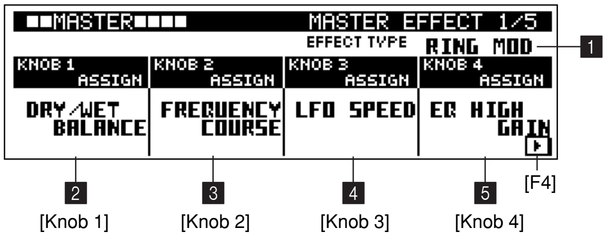


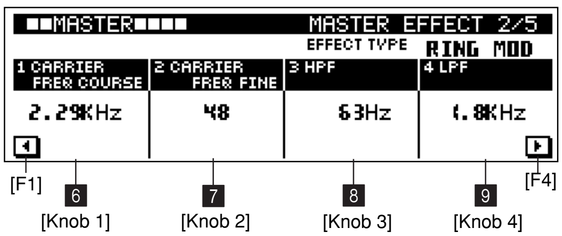


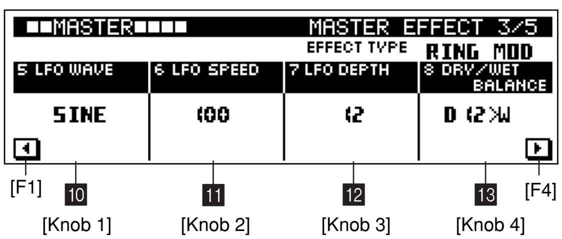
1. **LOW GAIN** .... **[Knob 1]**
2. **MID1 GAIN** .... **[Knob 2]**
3. **MID2 GAIN** .... **[Knob 3]**
4. **HIGH GAIN** .... **[Knob 4]**
5. **LOW FREQUENCY** .... **[Knob 1]**
6. **MID1 FREQUENCY** .... **[Knob 2]**
7. **MID2 FREQUENCY** .... **[Knob 3]**
8. **HIGH FREQUENCY** .... **[Knob 4]**
9. **LOW Q** .... **[Knob 1]**
10. **MID1 Q** .... **[Knob 2]**
11. **MID2 Q** .... **[Knob 3]**
12. **HIGH Q** .... **[Knob 4]**

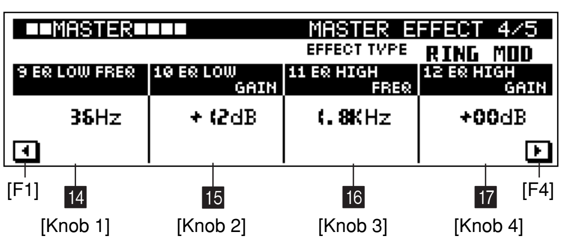
[2] Master Effect Page

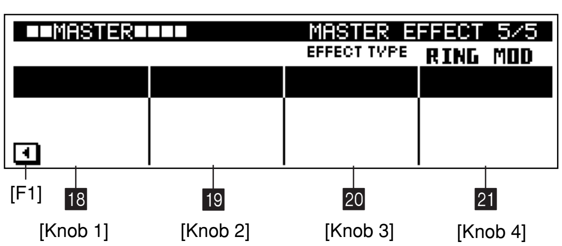
[SONG] → [MASTER] × 2











1 **EFFECT TYPE** .... **[MASTER EFFECT Select Knob]**

2 **KNOB1 ASSIGN** .... **[Knob 1]**

3 **KNOB2 ASSIGN** .... **[Knob 2]**

4 **KNOB3 ASSIGN** .... **[Knob 3]**

5 **KNOB4 ASSIGN** .... **[Knob 4]**

6 **Effect Parameter 1** .... **[Knob 1]**

7 **Effect Parameter 2** .... **[Knob 2]**

8 **Effect Parameter 3** .... **[Knob 3]**

9 **Effect Parameter 4** .... **[Knob 4]**

10 **Effect Parameter 5** .... **[Knob 1]**

11 **Effect Parameter 6** .... **[Knob 2]**

12 **Effect Parameter 7** .... **[Knob 3]**

13 **Effect Parameter 8** .... **[Knob 4]**

14 **Effect Parameter 9** .... **[Knob 1]**

15 **Effect Parameter 10** .... **[Knob 2]**

16 **Effect Parameter 11** .... **[Knob 3]**

17 **Effect Parameter 12** .... **[Knob 4]**

18 **Effect Parameter 13** .... **[Knob 1]**

19 **Effect Parameter 14** .... **[Knob 2]**

20 **Effect Parameter 15** .... **[Knob 3]**

21 **Effect Parameter 16** .... **[Knob 4]**

11. Saving to Memory Card or Disk

The SAVE sub mode allows you save data to standard memory cards — available at many electronics and computer stores — or disks.
5 display pages are provided: Save, Export, Rename, Delete, and Format.
Press [SAVE] from the SONG Play mode to go to the SAVE sub mode.
The SAVE sub mode cannot be selected, however, during song playback or recording.

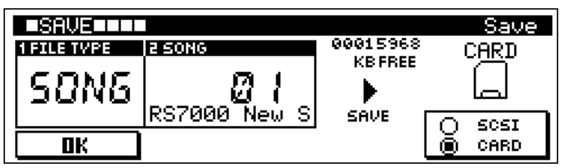
> **NOTE**
> For information about memory cards, disks, file data, file extensions, etc., refer to “Chapter 2: The Pattern Mode”, page 114.

Save Page Structure

The SAVE sub-mode includes the following display pages.

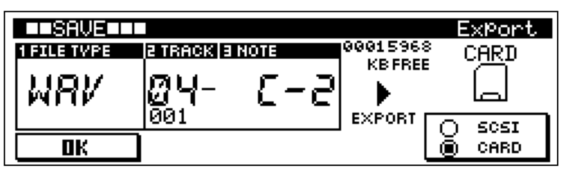
● Save

Saves data from the internal memory to memory card or disk.



● Export

Saves the selected sample or song to memory card or disk in a standard format — SMF or WAV — that can be handled by a personal computer.

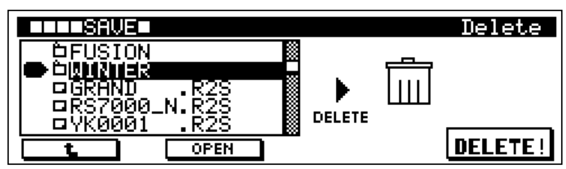


● Rename

Changes the file name of a file stored on memory card or disk.

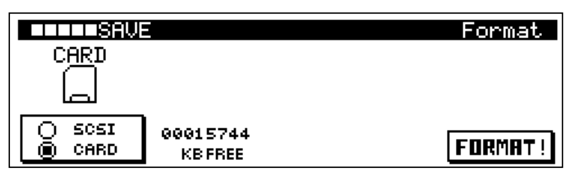
● Delete

Deletes a specified file from memory card or disk.



● Format

Formats a memory card or disk.



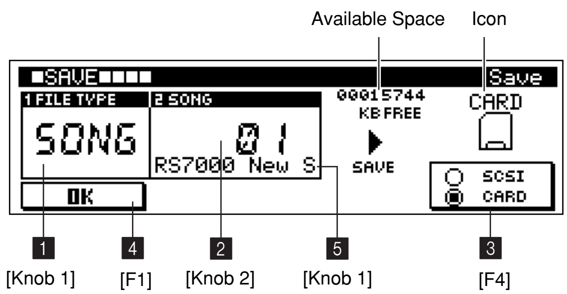
[1] Save Page

Saves internal data to a memory card or disk.
Features and details are the same as in the PATTERN mode (Page 114).
In this section we'll describe only parameters which are different from the PATTERN mode.

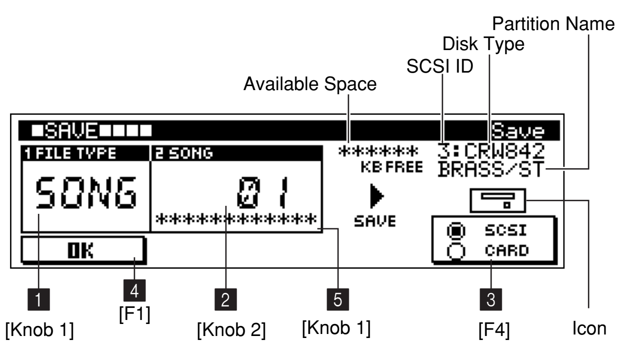
Display Parameters

[SONG] → [SAVE]

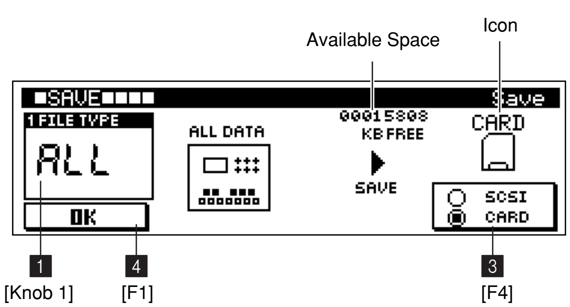
FILE TYPE = SONG, CARD or SCSI = CARD



FILE TYPE = SONG, CARD or SCSI = SCSI



FILE TYPE = ALL, CARD or SCSI = CARD



1 FILE TYPE .... **[Knob 1]**

[Settings] SONG, ALL

Specifies the type of data file to be saved.
For descriptions of the various file types see "About File Types" on page 116.

2 SONG .... **[Knob 2]**

[Settings] 01 ~ 20

Selects the song to be saved.
This parameter is not available when the FILE TYPE parameter is set to "ALL".

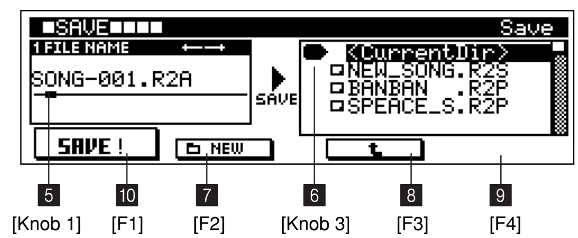
> **NOTE**
> Empty songs which contain no data cannot be saved.

3 SCSI/CARD .... **[F4]**

4 OK .... **[F1]**

■ **Save Execution Page**

[SONG] → [SAVE] → [F1]



5 FILE NAME .... **[Knob 1]**

6 Folder Select .... **[Knob 3]**

7 NEW .... **[F2]**

8 ↥ (UP) .... **[F3]**

9 OPEN .... **[F4]**

10 SAVE! .... **[F1]**

4
The Song Mode

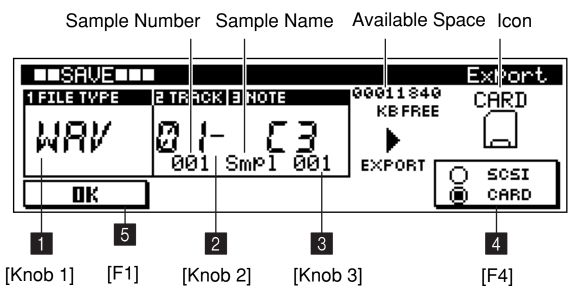
[2] Export Page

Saves the selected sample or song to memory card or disk in a standard format — WAV or SMF — that can be handled by a personal computer.
Features and details are the same as in the PATTERN mode (Page 120).

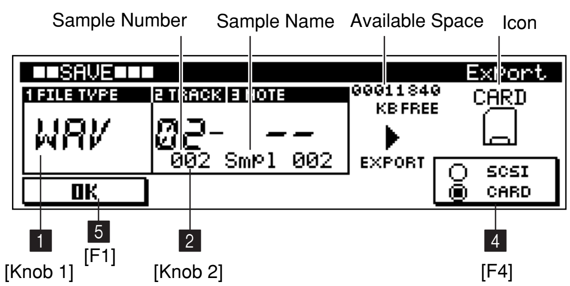
Display Parameters

[SONG] → [SAVE] × 2

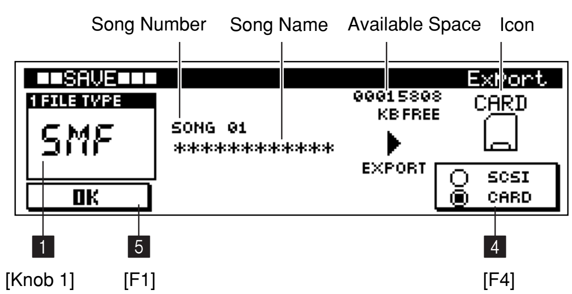
FILE TYPE = WAV, sample kit voice selected



FILE TYPE = WAV, pitched sample voice selected



FILE TYPE = SMF



1 **FILE TYPE** .... **[Knob 1]**

2 **TRACK** .... **[Knob 2]**

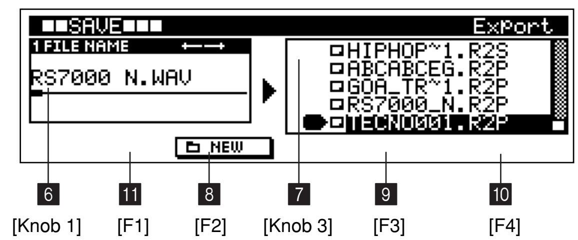
3 **NOTE** .... **[Knob 3]**

4 **SCSI/CARD** .... **[F4]**

5 **OK** .... **[F1]**

■ **Export Execution Page**

[SONG] → [SAVE] × 2 → [F1]



6 **FILE NAME** .... **[Knob 1]**

7 **Folder Select** .... **[Knob 3]**

8 **NEW** .... **[F2]**

9 **↑ (UP)** .... **[F3]**

10 **OPEN** .... **[F4]**

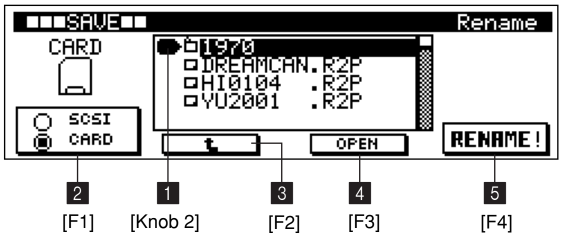
11 **EXPORT!** .... **[F1]**

[3] Rename Page

Changes the name of a file or folder.
Features and details are the same as in the PATTERN mode (page 122).

Display Parameters

[SONG] → [SAVE] × 3



1 **FILE**..**[Knob 1]**

2 **SCSI/CARD**..**[F1]**

3 ⮤ **(UP)**..**[F2]**

4 **OPEN**..**[F3]**

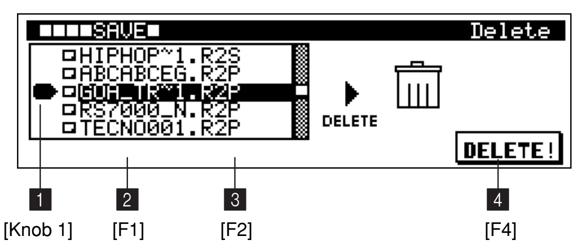
5 **RENAME!**..**[F4]**

[4] Delete Page

Deletes files or folders.
Features and details are the same as in the PATTERN mode (Page 123).

Display Parameters

[SONG] → [SAVE] × 4



1 **FILE**..**[Knob 1]**

2 ⮤ **(UP)**..**[F1]**

3 **OPEN**..**[F2]**

4 **DELETE!**..**[F4]**

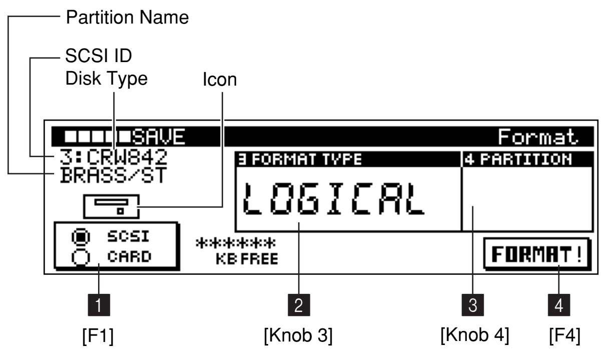
[5] Format Page

Formats memory cards and disks.
Features and details are the same as in the PATTERN mode (Page 124).

Display Parameters

[SONG] → [SAVE] × 5

CARD or SCSI = SCSI



CARD or SCSI = CARD

1 **SCSI/CARD**..**[F1]**

2 **FORMAT TYPE**...**[Knob 3]**

3 **PARTITION**...**[Knob 4]**

4 **FORMAT!**...**[F4]**

12. Loading from Memory Card or Disk

This sub mode is used to load data from a memory card or disk.
4 display pages are provided: Load, Import, SCSI Setup, and SCSI Communication.
Press [LOAD] from the SONG Play mode to go to the Load display.

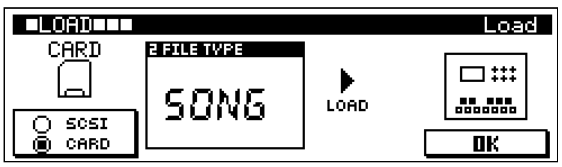
> **NOTE**
> Refer to “Chapter 2: The Pattern Mode”, page 116, for information about file types.

Load Page Structure

The LOAD sub-mode includes the following display pages.

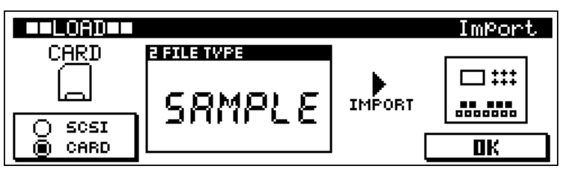
● Load

Loads data into the internal memory from memory card or disk.



● Import

Loads sequence or sample data saved to disk using other equipment, or saved to memory card or disk by a computer.

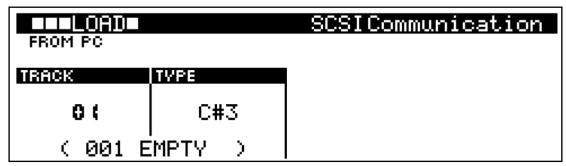


● SCSI Setup

Provides access to a number of SCSI settings.

● SCSI Communication

Allows communication with the YAMAHA TWE Wave Editor application running on a personal computer.



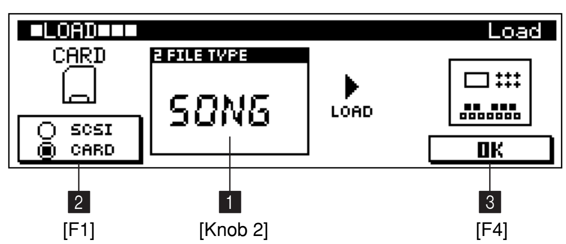
[1] Load Page

Loads data to internal memory from a memory card or disk.
Features and details are the same as in the PATTERN mode (Page 126).
In this section we’ll describe only parameters which are different from the PATTERN mode.

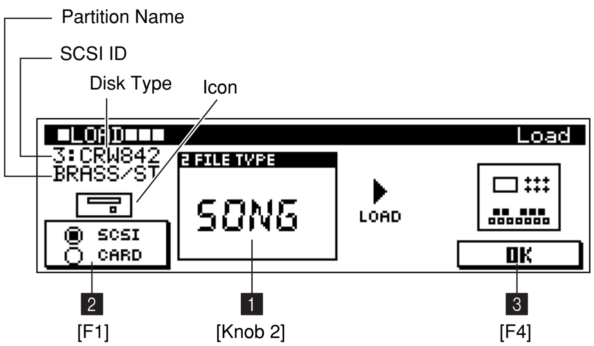
Display Parameters

[SONG] → [LOAD]

CARD or SCSI = CARD



CARD or SCSI = SCSI



1 FILE TYPE..**[Knob 2]**

[Settings] SONG, ALL, ALL+SYSTEM, SMPL

- **SONG**.................... **A single song is loaded into the specified style number in the internal memory from a SONG type (.R2S) or ALL type (.R2A) file.**
- **ALL** .... **An ALL type (.R2A) file is loaded and all internal memory except the system setup data is overwritten.**
- **ALL+SYSTEM** ...... **An ALL type (.R2A) file is loaded and all internal memory including the system setup data is overwritten.**
- **SMPL** .... **A specified sample from multiple sample voices included in a PATT (.R2P), SONG (.R2S),or ALL (.R2A) type file can be loaded to the specified sample voice number.**

Specifies the type of data file to be loaded.
For details about the various file types see “About File Types” on page 116.

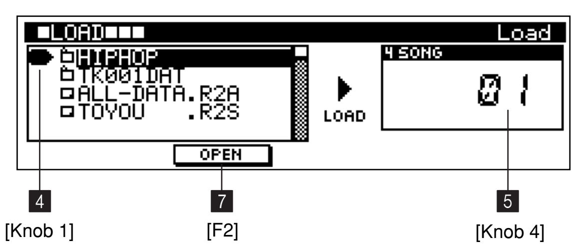
2 SCSI/CARD...**[F1]**

3 OK..**[F4]**

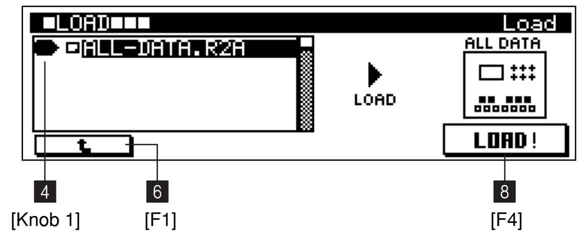
■ **Load Execution Page**

[SONG] → [LOAD] → [F4]

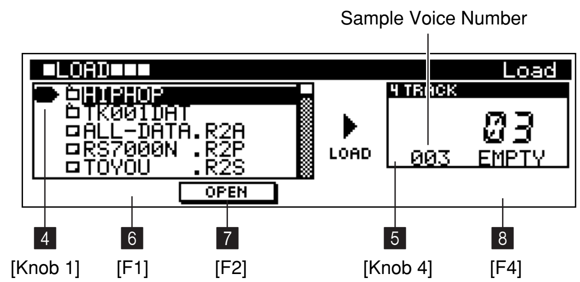
FILE TYPE = SONG



FILE TYPE = ALL, ALL+SYSTEM



FILE TYPE = SMPL



4 File Select .... **[Knob 1]**

5 SONG, TRACK.. **[Knob 4]**

[Settings]

Song Select

(when FILE TYPE = SONG)..................01 ~ 20

Track Select

(when FILE TYPE = SMPL) ....01 ~ 16

• When the selected FILE TYPE is SONG.
Selects the song to which the data will be loaded.
The name of the selected song is displayed.
• When the selected FILE TYPE is SMPL.
Selects the track to which the data will be loaded.
If a sample voice is assigned to the selected track and the number of the assigned sample is the same as that of the sample to be loaded, the “REPLACE” appears to indicate that the existing sample will be replaced by the loaded sample. If no sample voices are assigned to the selected track then an empty sample voice number will be displayed and “EMPTY” will appear to indicate that the sample will be loaded to empty memory.

> **NOTE**
> - When the SMPL file type is selected the song to which the data will be loaded cannot be selected from this display. To change the song number return to the SONG Play mode and select the desired song, then return to this display page.
> - When the load operation is executed, any existing data in the selected song number or sample voice number will be overwritten.

6 ⮤ (UP) .... [F1]

7 OPEN .... [F2]

8 LOAD! .... [F4]

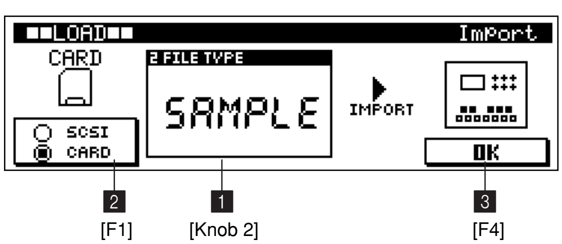
[2] Import Page

Loads sequence or sample data which was saved to a SCSI disk or memory card by other music equipment or a personal computer.
Features and details are the same as in the PATTERN mode (Page 129).
In this section we'll describe only parameters which are different from the PATTERN mode.

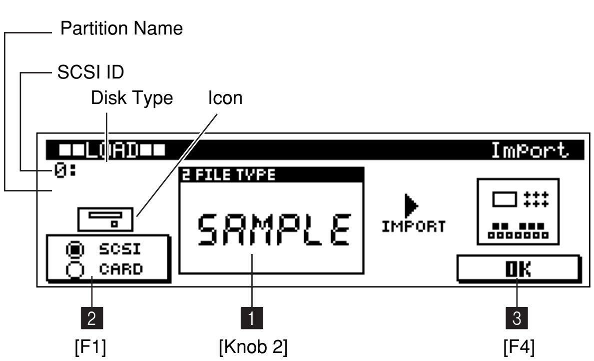
Display Parameters

[SONG] → [LOAD] × 2

CARD or SCSI = CARD



CARD or SCSI = SCSI



1 FILE TYPE .... [Knob 2]

[Settings] SAMPLE, SMF, RM1x SONG

SAMPLE .... **Sample data, WAV files, WAV files (.WAV) and AIFF files (.AIF) can be loaded into the specified internal sample voice number.**

SMF (Standard MIDI File) .... **Sequence data can be loaded into the currently selected pattern from an SMF (Standard MIDI File, format-0 or 1) type file.**

RM1x SONG ..... **Song data saved in RM1x pattern format can be loaded into the currently selected RS7000 song.**

Specifies the type of data file to be imported.
Some imported samples may play at an unexpected pitch, loop playback may change, or the sound quality may vary.
When an RM1x SONG file is imported the voice edit and effect settings will not be reproduced. Some voices may also change.
For details about the various file types see "About File Types" on page 116.

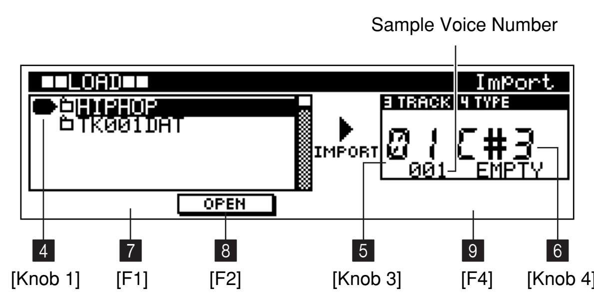
2 SCSI/CARD .... [F1]

3 OK .... [F4]

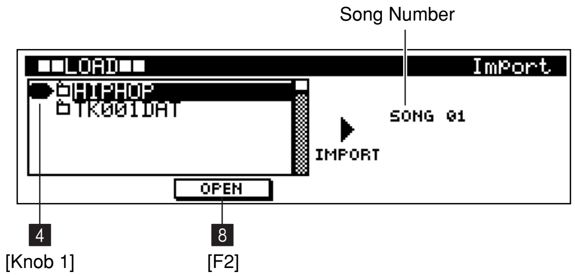
■ Import Execution Page

[SONG] → [LOAD] × 2 → [F4]

FILE TYPE = SAMPLE



FILE TYPE = SMF, RM1x SONG



4 File Select .... **[Knob 1]**

5 TRACK .... **[Knob 3]**

6 TYPE .... **[Knob 4]**

7 ⮤ (UP) .... **[F1]**

8 OPEN .... **[F2]**

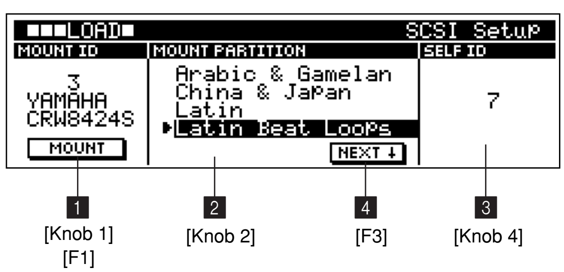
9 IMPORT .... **[F4]**

[3] SCSI Setup Page

Provides access to a number of SCSI settings.
Features and details are the same as in the PATTERN mode (Page 131).

Display Parameters

[SONG] → [LOAD] × 3



1 MOUNT ID .... **[Knob 1], [F1]**

2 MOUNT PARTITION .... **[Knob 2]**

3 SCSI SELF ID .... **[Knob 4]**

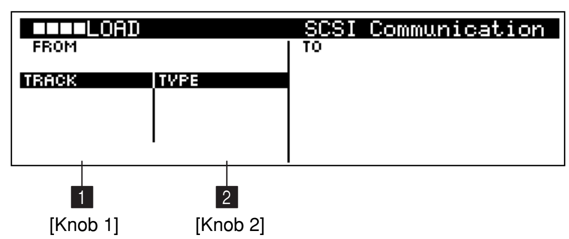
4 NEXT/PREV .... **[F3]**

[4] SCSI Communication Page

Allows communication with the YAMAHA TWE Wave Editor application running on a personal computer.
Features and details are the same as in the PATTERN mode (Page 132).

Display Parameters

[SONG] → [LOAD] × 4



1 TRACK .... **[Knob 1]**

2 TYPE .... **[Knob 2]**

4 The Song Mode

13. The Song Jobs

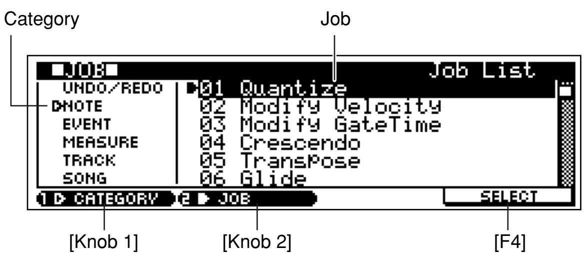
The RS7000's 30 song "jobs" can be used to edit and modify song data in a number of ways.

● Job List

[Undo/Redo Category]			
00	Undo/Redo	Undo job cancels the changes made by the most recent operation, restoring the data to its previous state. Redo job cancel Undo and restores the changes.	P.213
[Note Category]			
01	Quantize	Adjusts the timing of note events by moving them closer to the nearest exact beat.	P.214
02	Modify Velocity	Alters the velocity values of the specified range of notes.	P.214
03	Modify Gate Time	Alters the gate times of the specified range of notes.	P.214
04	Crescendo	Creates a crescendo or decrescendo over the specified range of notes.	P.215
05	Transpose	Transposes notes in the specified range in semitone increments.	P.215
06	Glide	This job is ideal for producing guitar-like slide or note-bending effects.	P.215
07	Create Roll	This job is ideal for creating fast drum-like rolls.	P.216
08	Chord Sort	This job sorts chord events by order of pitch.	P.216
09	Chord Separate	Use this job after the Chord Sort job, above, to create guitar-like upstroke or downstroke effects.	P.216
[Event Category]			
10	Shift Clock	Shifts all data events in the specified range forward or backward by the specified number of clocks.	P.216
11	Copy Event	Copies all data from a specified source range to a specified destination location.	P.217
12	Erase Event	Clears all specified events from the specified range.	P.217
13	Extract Event	This job moves all instances of specified event data from a specified range of a song to the same range in a different song.	P.218
14	Create Continuous Data	Creates continuous pitch bend or control change data over the specified range.	P.218
15	Thin Out	Thins out the specified type of continuous data in the specified range to save memory space.	P.219
16	Modify Control Data	Changes the values of a specified type of control change data in the specified range.	P.219
17	Beat Stretch	This job performs time-expansion or compression over the selected range.	P.220
[Measure Category]			
18	Create Measure	Creates empty measures at the specified location.	P.220
19	Delete Measure	Deletes the specified measure(s).	P.220
[Track Category]			
20	Copy Track	Copies all data of the selected type from specified source track to specified destination track.	P.221
21	Exchange Track	Exchanges the contents of two specified tracks.	P.221
22	Mix Track	This job mixes all data from two selected tracks — "a" and "b" — and places the result in track "b".	P.222
23	Clear Track	This job deletes all data of the selected type from the selected pattern track, or from all pattern tracks.	P.222
24	Normalize Play Effect	This job rewrites the data in the selected track so that it incorporates the current Play FX/Groove/MIDI Delay settings.	P.222
25	Divide Drum Track	Separates the note events in a drum track and places the notes corresponding to different drum instruments in separate tracks.	P.223

[Song Category]			
26	Copy Song	This job copies all data from a selected source song to a selected destination song.	P.223
27	Split Song To Pattern	Splits a selected song into two the specified sections of a specified style.	P.223
28	Clear Song	This job deletes all data from the specified song.	P.224
29	Song Name	Use this job to enter or change a song name.	P.224

Job Procedure



1. Press the [JOB] button from the SONG Play mode to go to the job list.
2. Use [Knob 1] (CATEGORY) and [Knob 2] (JOB) to move the cursor to the desired job.
3. Press [F4] (SELECT) to jump to the selected job page.
4. Use [Knob 2] (CURSOR ← →) to move the cursor to the various parameters, and [Knob 3] (VALUE -/+) or [SHIFT]+[F3] → Numeric Keypad to set the parameter values as required.
5. When the parameters are set press [F4] (DO!) to execute the job. “Completed.” will appear when the job is done.
6. Press [EXIT] twice to go back to the SONG Play or Patch mode.

NOTE

If the memory protect function is ON, “Memory Protected” will appear on the display when the [JOB] button is pressed and it will not be possible to access the job list. In this case go to the UTILITY mode System page (Page 257) and turn MEMORY PROTECT “OFF”.

Precautions

- If there is no data in the specified range “No Data” will appear on the display and the job can not be executed.
- If you make a mistake or want to compare the sound of the data before and after executing a job, use the Undo/Redo function (Page 213).
- The job application range is specified in measures and beats as follows:

  If the range is 001:1:000 ~ 004:1:000, the job will effect data from the 1st beat of the 1st measure up to the 4th (last) beat of the 3rd measure.

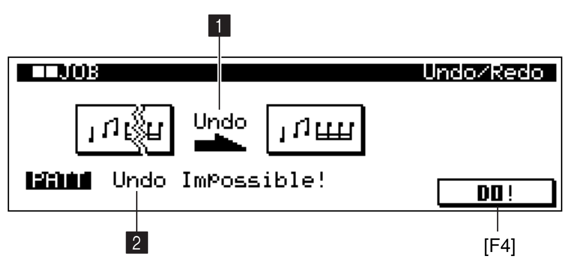
- The specifiable beat range will depend on the meter. 1 ~ 4 can be specified if the meter is 4/4, 1 ~ 8 can be specified if the meter is 8/4, etc.

00 Undo/Redo

Details are the same as the PATTERN mode Undo/Redo job (Page 134).

NOTE

Undo/Redo does not work with sample voice operations.



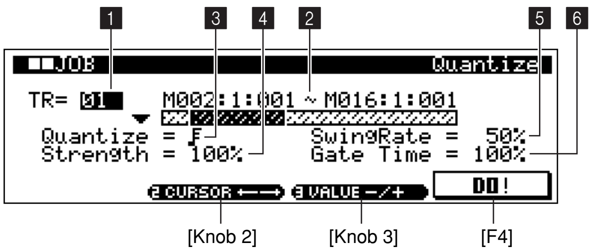
■ **The following parameters are the same as in the PATTERN mode (Page 135).**

1 Undo/Redo Indication

2 Undo/Redo target

01 Quantize

Quantization is the process of adjusting the timing of note events by moving them closer to the nearest exact beat. You can use this feature, for example, to improve the timing of a performance recorded in real time.
Details are the same as the PATTERN mode (Page 135).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 135).**

3 Quantize Value

4 Quantize Strength

5 Swing Rate

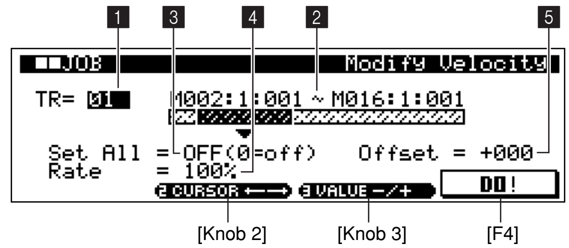
6 Swing Gate Time

02 Modify Velocity

This job alters the velocity values of the specified range of notes. Velocity changes are calculated as follows:

Adjusted velocity = (original velocity × Rate) + Offset.

If the result is 0 or less, the value is set to 1. If the result is higher than 127, the value is set to 127.
Details are the same as the PATTERN mode (Page136).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 136).**

3 Set All

4 Rate

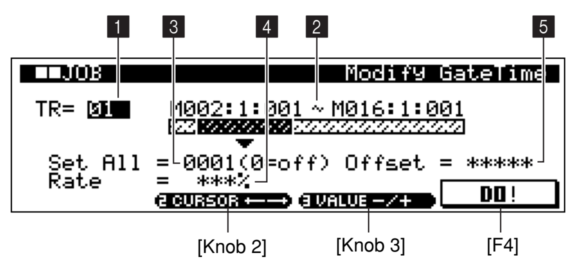
5 Offset

03 Modify Gate Time

This job alters the gate times of the specified range of notes.
Gate time changes are calculated as follows:

Adjusted gate time = (original gate time × Rate) + Offset.

If the result is 0 or less, the value is set to 1.
Details are the same as the PATTERN mode (Page 137).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

[Settings]

Measure:Beat:Clock

001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 137).**

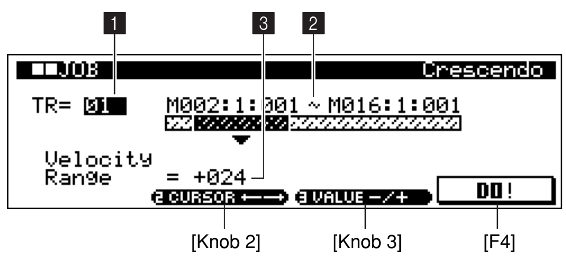
3 Set All

4 Rate

5 Offset

04 Crescendo

Creates a crescendo or decrescendo over the specified range of notes.
Details are the same as the PATTERN mode (Page 138).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

[Settings]

Measure:Beat:Clock

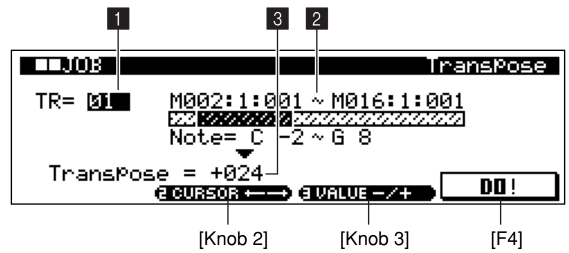
001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 138).**

3 Velocity Range

05 Transpose

Transposes notes in the specified range in semitone increments.
Details are the same as the PATTERN mode (Page 138)



1 Track

[Settings] 01 ~ 16, ALL

2 Range

[Settings]

Measure:Beat:Clock

001:1:000 ~ 999:16:479

Note

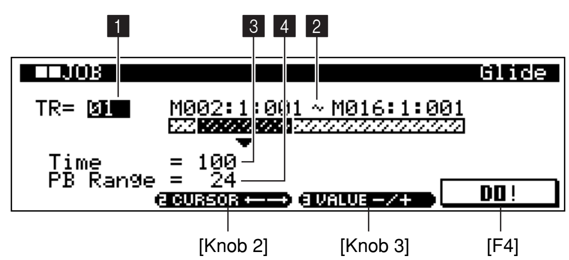
C-2 ~ G8

■ **The following parameters are the same as in the PATTERN mode (Page 138).**

3 Transpose

06 Glide

Replaces all notes following the first note in the specified segment with pitch bend data, producing smooth glides from note to note. This job is ideal for producing guitar-like slide or note-bending effects.
Details are the same as the PATTERN mode (Page 138).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

[Settings]

Measure:Beat:Clock

001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 138).**

4

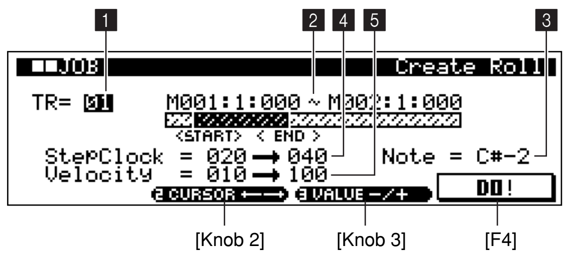
The Song Mode

3 Time

4 PB Range

07 Create Roll

Creates a series of repeated notes in the specified range with the specified continuous changes in clock step and velocity. This job is ideal for creating fast drum-like rolls.
Details are the same as the PATTERN mode (Page 139).



1 Track

[Settings] 01 ~ 16

2 Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 139).**

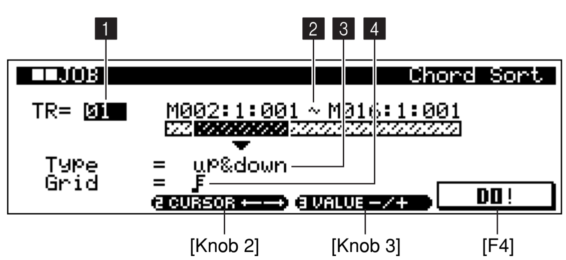
3 Note

4 Step Clock

5 Velocity

08 Chord Sort

This job sorts chord events (simultaneous note events) by order of pitch.
Details are the same as the PATTERN mode (Page 139).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

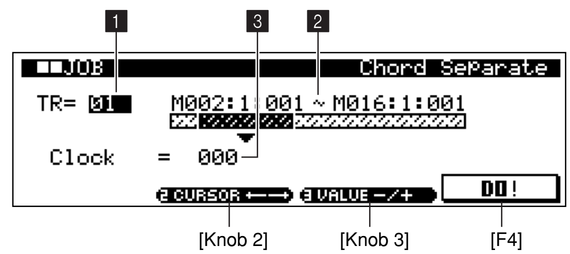
■ **The following parameters are the same as in the PATTERN mode (Page 139).**

3 Type

4 Grid

09 Chord Separate

This job slightly separates notes in chords within the specified range, inserting a specified number of clocks between each note. Use this job after the Chord Sort job, above, to create guitar-like upstroke or downstroke effects.
Details are the same as the PATTERN mode (Page 140).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

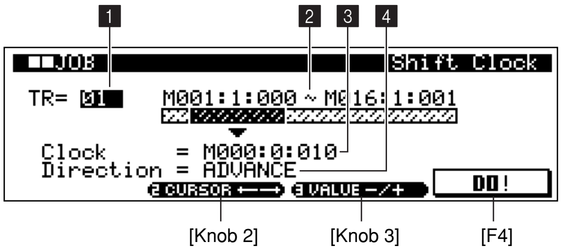
[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 140).**

3 Clock

10 Shift Clock

Shifts all data events in the specified range forward or backward by the specified number of clocks.
Details are the same as the PATTERN mode (Page 140).



1 Track

[Settings] 01 ~ 16, BPM, SCENE, ALL

2 Range

[Settings]

Measure:Beat:Clock

001:1:000 ~ 999:16:479

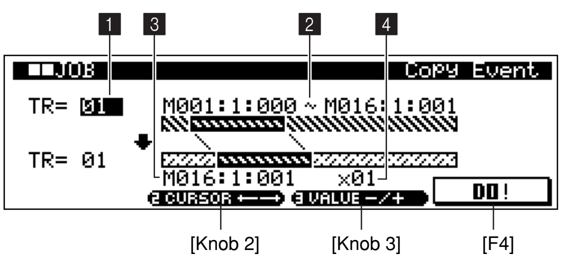
■ **The following parameters are the same as in the PATTERN mode (Page 140).**

3 Clock

4 Direction

11 Copy Event

This job copies all data from a specified source range to a specified destination location.
Details are the same as the PATTERN mode (Page 141).



CAUTION

When Copy Event is executed any data already existing at the Destination location will be overwritten.

1 Track

[Settings] 01 ~ 16, BPM, SCENE, ALL

2 Source Range

[Settings]

Measure:Beat:Clock

001:1:000 ~ 999:16:479

3 Destination Location

[Settings]

Measure:Beat:Clock

001:1:000 ~ 999:16:479

■ **The following parameters are the same as in the PATTERN mode (Page 141).**

4 Times

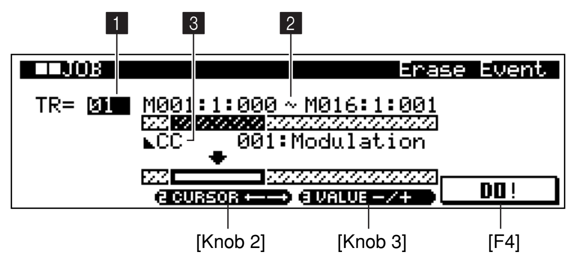
12 Erase Event

This job clears all specified events from the specified range, effectively producing a segment of silence.

NOTE

When this job is applied to a phrase which uses sample voices, the note events which trigger the sample voice will be erased so that the sample voice does not sound, but the sample voice itself is not erased.

Details are the same as the PATTERN mode (Page 141).



1 Track

[Settings] 01 ~ 16, BPM, SCENE, ALL

2 Source Range

[Settings]

Measure:Beat:Clock

001:1:000 ~ 999:16:479

3 Event

[Settings]

When Track is 01 ~ 16, ALL:

Event Type	Range
Note (Note events)	—
PC (Program change)	—
PB (Pitch bend)	—
CC (Control change)	000 ~ 127, ALL
CAT (Channel aftertouch)	—
PAT (Polyphonic aftertouch)	—

EXC (System exclusive) .... —
ALL (All events) .... —

When Track is BPM:

Event Type	Range
BPM (Tempo)	—

When Track is SCENE:

Event Type	Range
ScnM (Scene Memory)...................	—
MutM (Mute Memory).....................	—
TrMt (Track Mute)..........................	—

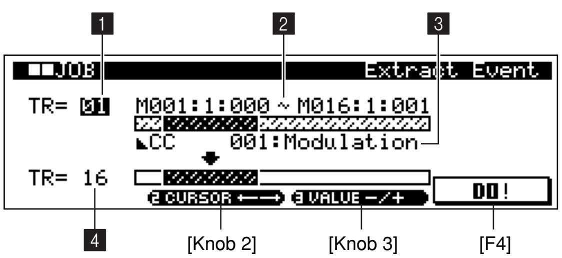
13 Extract Event

This job moves all instances of specified event data from a specified range of a track to the same range in a different track.

NOTE

If this job is applied to a track that uses sample voices, the sample voices will not be moved to the destination track but the note data that triggers them will, with the result that the samples will no longer sound. To make the sample sound, use the MIXER sub mode (Page 194) to assign the appropriate sample voice to the destination track.

Details are the same as the PATTERN mode (Page 142).



1 Source Track

[Settings] 01 ~ 16

Selects the track from which events are to be extracted.

2 Source Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

4 Destination Track

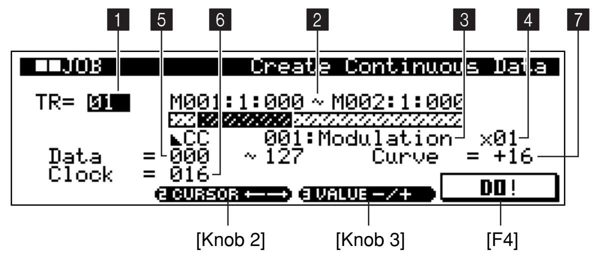
[Settings] 01 ~ 16

■ **The following parameters are the same as in the PATTERN mode (Page 142).**

3 Event

14 Create Continuous Data

Creates continuous pitch bend or control change data over the specified range.
Details are the same as the PATTERN mode (Page 142).



1 Track

[Settings] 01 ~ 16, BPM, ALL

2 Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

3 Event Type

[Settings]
When Track is 01 ~ 16:

Event Type	Range
PB (Pitch bend)............................	—
CC (Control change)	000 ~ 127, ALL
CAT (Channel aftertouch)..............	—
EXC (System exclusive)	—

When Track is BPM:

Event Type	Range
BPM (Tempo)................................	—

5 Data

[Settings] 000 ~ 127
(-8192 ... +8191 for pitch bend data,
1.0 ~ 300.0 for BPM data)

■ **The following parameters are the same as in the PATTERN mode (Page 142).**

4 Times

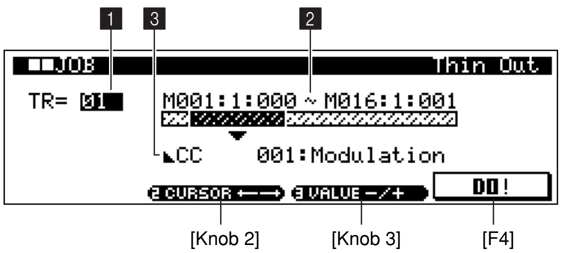
6 Clock

7 Curve

15 Thin Out

Thins out the specified type of continuous data in the specified range to save memory space.
Details are the same as the PATTERN mode (Page 143).

> **NOTE**
> The Thin Out job will not work on continuous data that has a clock interval of greater than 60 clocks per event.



1 Track

[Settings] 01 ~ 16, BPM, ALL

2 Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

3 Event Type

[Settings]
When Track is 01 ~ 16:

Event Type	Range
PB (Pitch bend)	—
CC (Control change)	000 ~ 127, ALL
CAT (Channel aftertouch)	—
PAT (Polyphonic aftertouch)	—

When Track is BPM:

Event Type	Range
BPM (Tempo)	—

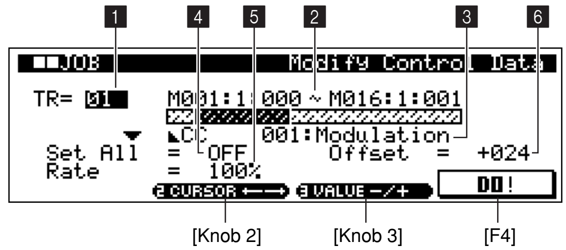
16 Modify Control Data

Changes the values of a specified type of control change data — pitch bend, control change, aftertouch, etc. — in the specified range.

Control data changes are calculated as follows:

Adjusted gate time = (original gate time × Rate) + Offset.

If the result is outside the allowable range, the value will be set to minimum or maximum.
Details are the same as the PATTERN mode (Page 143).



1 Track

[Settings] 01 ~ 16, BPM, ALL

2 Range

[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

3 Event Type

[Settings]
When Track is 01 ~ 16, All:

Event Type	Range
PB (Pitch bend)	—
CC (Control changer)	000 ~ 127, ALL
CAT (Channel aftertouch)	—
PAT (Polyphonic aftertouch)	—

When Track is BPM:

Event Type	Range
BPM (Tempo)	—

4 Set All

[Settings] Off, 000 ~ 127
(-8192 ~ +8191 for pitch bend,
1.0 ~ 300.0 for BPM)

5 Rate

[Settings] 000% ~ 200%, ***

6 Offset

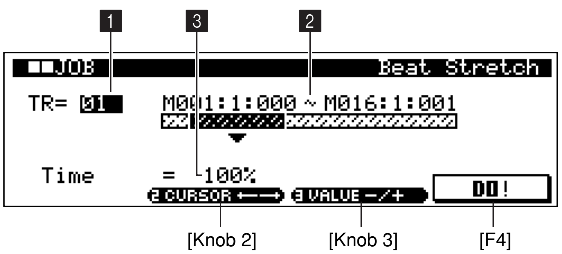
[Settings] -127 ~ +127 ***
(-8192 ~ +8191 for pitch bend, *),**
(-275.0 ~ +275.0 for BPM, *)**

17 Beat Stretch

This job performs time-expansion or compression over the selected range.
All note step times, gate times, the positions of all events, etc., in the specified range are expanded or compressed.

> **NOTE**
> Only MIDI data is affected by this job. Sample voices are not expanded or compressed.
> However, for samples recorded using the SLICE+SEQ feature, the Beat Stretch job expands or compresses the timing of the note data, step times, and gate times that control playback of the sliced samples. The sample voice itself is not affected.

Details are the same as the PATTERN mode (Page 144).



1 Track

[Settings] 01 ~ 16, ALL

2 Range

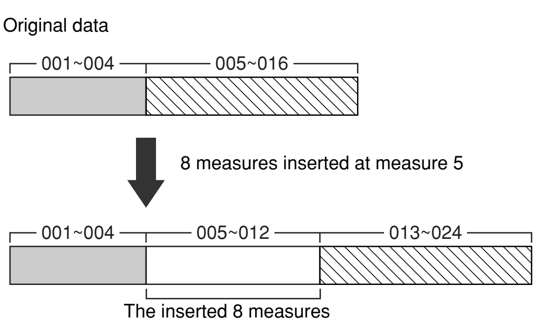
[Settings]
Measure:Beat:Clock
001:1:000 ~ 999:16:479

3 Time

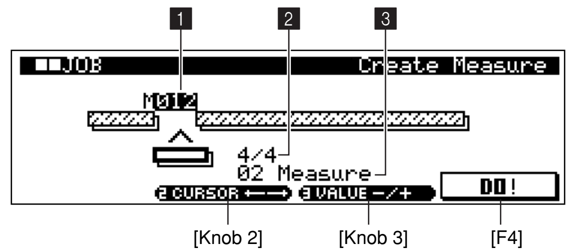
[Settings] 025% ~ 400%

18 Create Measure

Creates empty measures at the specified location.



> **NOTE**
> • When empty measures are inserted, measure and meter data following the insert point are moved forward accordingly.
> • If the insert point is set after the last measure containing data, only the meter data at that point is set without actually inserting the measures.



1 Insert Point

[Settings] 001 ~ 999

Specifies the insert point (measure number) at which the newly created blank measures will be inserted.

2 Meter

[Settings] 1/16 ~ 16/16, 1/8 ~ 16/8, 1/4 ~ 8/4

Specifies the meter of the measures to be created. This does not affect the original meter of the song, and can be used to complex time signatures.

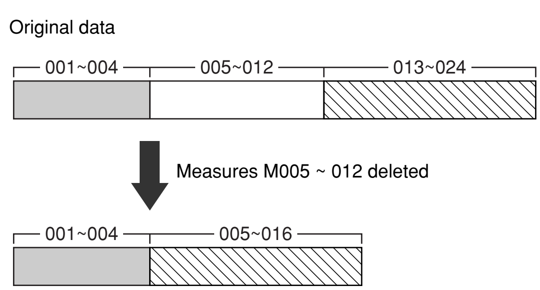
3 Number of Measures

[Settings] 01 ~ 99

Specifies the number of empty measures to be created and inserted.

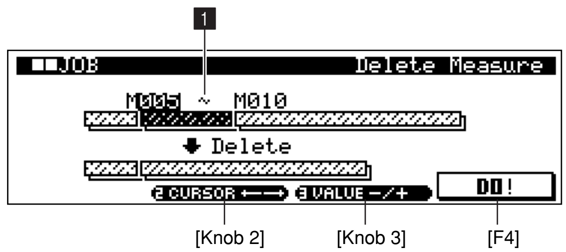
19 Delete Measure

Deletes the specified measures.



NOTE

- Measure and meter data following the deleted measures are moved backward accordingly.
- When sample voices are used in the deleted measures, the note events which trigger the sample voice will be erased so that the sample voice does not sound, but the sample voice itself is not erased.



1 Delete Range

[Settings] 001 ~ 999

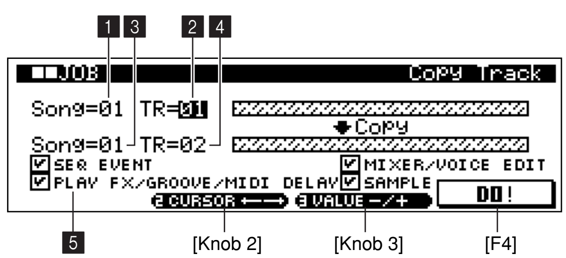
Specifies the range of measures to be deleted.

20 Copy Track

Copies all data from a specified source track to the specified destination track.

CAUTION

The copy operation overwrites any data previously existing on the destination track.



1 Source Song

[Settings] 01 ~ 20

Selects the source song.

2 Source Track

[Settings] 01 ~ 16

Selects the source track.

3 Destination Song

[Settings] 01 ~ 20

Selects the destination song.

4 Destination Track

[Settings] 01 ~ 16

Selects the destination track.

5 Data Type

[Settings]

☐ **SEQ EVENT**
All events in the track.

☐ **PLAY FX/GROOVE/MIDI DELAY**
The track's PLAY FX. GROOVE, and MIDI DELAY settings.

☐ **MIXER/VOICE EDIT**
The track's mixer and voice edit settings.

☐ **SAMPLE**
Sample voices selected by Voice Select.

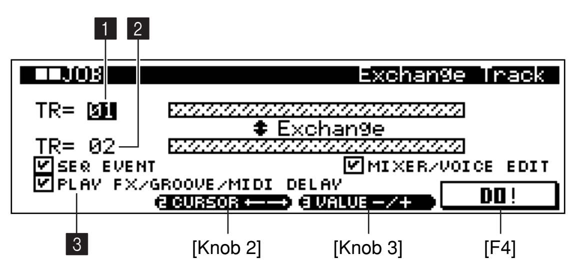
Determine the type(s) of data to be copied. When a checkbox is checked the corresponding data type will be copied.

NOTE

- When there is no memory available in the destination song for local sample voice data, "Too Many Local Sample Voices" will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
- Undo/Redo (Page 213) cannot be used to undo/redo a sample voice copy operation.
- When the "Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Copy Track job.

21 Exchange Track

Exchanges the specified type of data between two specified tracks in the current style and section.



4

The Song Mode

■1 Track, ■2 Track

[Settings] Track 01 ~ 16

Specify the two tracks between which data will be exchanged.

■3 Data Type

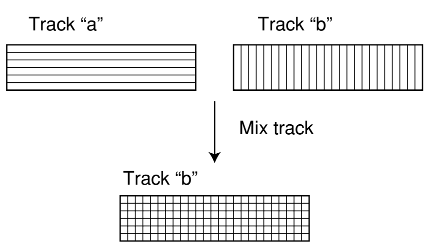
[Settings]

- ☐ **SEQ EVENT**
  All events in the track.
- ☐ **PLAY FX/GROOVE/MIDI DELAY**
  The track's PLAY FX. GROOVE, and MIDI DELAY settings.
- ☐ **MIXER/VOICE EDIT**
  The track's mixer and voice edit settings.

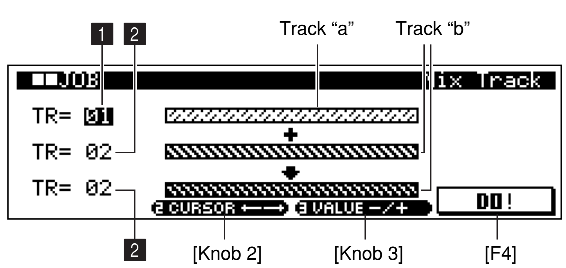
Determine the type(s) of data to be exchanged. When a checkbox is checked the corresponding data type will be exchanged.

22 Mix Track

This job mixes all data from two selected tracks — "a" and "b" — and places the result in track "b".



> **NOTE**
> If this job is applied to a track which uses a sample voice, only the note data used to play the sample voice will be mixed. The sample voice itself will not be mixed.



■1 Track a

[Settings] 01 ~ 16

Specifies track "a".

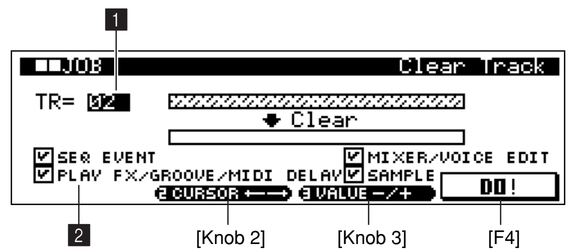
■2 Track b

[Settings] 01 ~ 16

Specifies track "b".

23 Clear Track

This job deletes all data of the selected type from the selected track, or from all tracks.



■1 Source Track

[Settings] 1 ~ 16, BPM, SCENE, ALL

■2 Data Type

[Settings]

- ☐ **SEQ EVENT**
  All events in the track.
- ☐ **PLAY FX/GROOVE/MIDI DELAY**
  The track's PLAY FX. GROOVE, and MIDI DELAY settings.
- ☐ **MIXER/VOICE EDIT**
  The track's mixer and voice edit settings.
- ☐ **SAMPLE**
  The sample voice assigned to the selected track.

Determine the type(s) of data to be cleared. When a checkbox is checked the corresponding data type will be cleared.

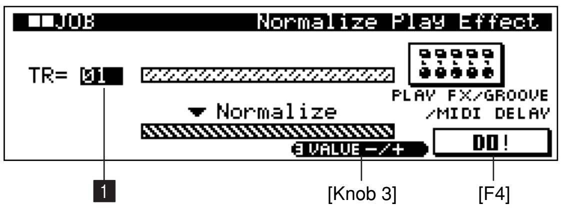
> **NOTE**
> - Undo/Redo cannot be used to undo/redo (Page 213) a sample voice clear operation.
> - When the "Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Clear Track job.

24 Normalize Play Effect

This job rewrites the data in the selected track so that it incorporates the current Play FX/Groove/MIDI Delay settings.

NOTE

After the Normalize Play Effect job is executed the PLAY FX, GROOVE, and MIDI DELAY parameters for the track are initialized.



1 Track

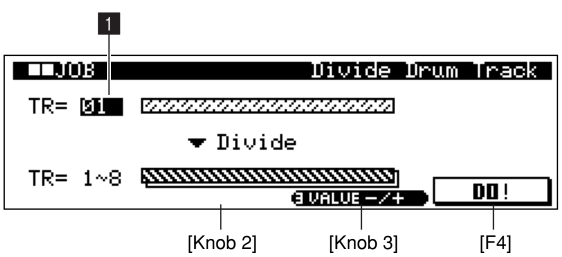
[Settings] 01 ~ 16, ALL

25 Divide Drum Track

Separates the note events in a drum phrase assigned to a specified track, and places the notes corresponding to different drum instruments in separate tracks (tracks 1 through 8).

CAUTION

Any previous data in tracks 1 ~ 8 will be overwritten.



1 Track

[Settings] 01 ~ 16

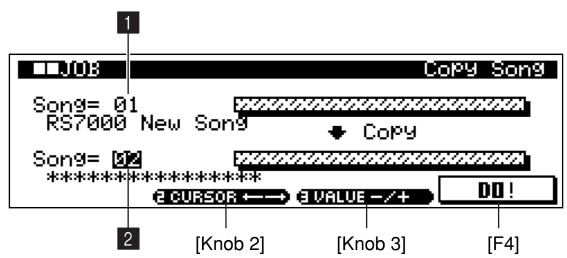
Specifies the drum track to be divided.

26 Copy Song

This job copies all data from a selected source song to a selected destination song.
The scene/mute memory contents and local samples used by the song are also copied.

NOTE

- When there is no memory available in the destination song for local sample voice data, “Too Many Local Sample Voices” will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job “02 Delete” (Page 246) to delete unused local samples then try again.
- Undo/Redo (Page 213) cannot be used to undo/redo a sample voice copy operation.
  When the [F4] (DO!) button is pressed, the “Are You Sure? Cancel [F2]/OK [F3]” confirmation prompt will appear. [F3] will execute the Copy Pattern job.



1 Source Song

[Settings] 01 ~ 20

Selects the source song.

2 Destination Song

[Settings] 01 ~ 20

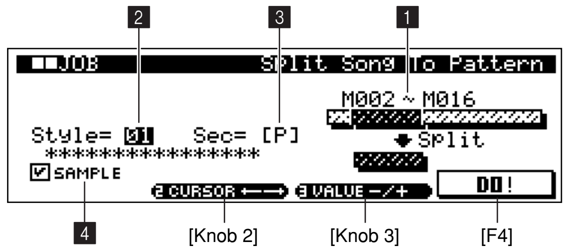
Select the destination song.

27 Split Song To Pattern

Splits a selected song into two the specified sections of a specified style.
SMF data can be easily used as a basis for patterns.

CAUTION

The job overwrites any data already existing in the destination pattern.



1 Split Measure

[Settings] 001 ~ 999

Specifies the measure at which the song will be split.

2 Split Destination Style, 3 Section

[Settings]

Style

01 ~ 64

Section

A ~ P

Specify the destination style and section.
The scene/mute data is also copied only if the split destination style is empty or if "☐ SAMPLE" box is being copied.

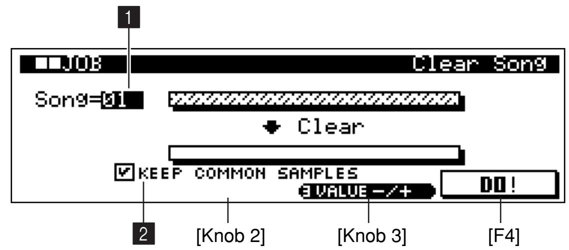
4 SAMPLE

If the checkbox is checked sample voices assigned to each track in the source song are copied to the split destination style as local sample voices and are assigned to the corresponding tracks in that pattern.
This checkbox has no effect if no sample voices are assigned to the tracks in the source song.

> **NOTE**
> - When there is no memory available in the destination style for local sample voice data, "Too Many Local Sample Voices" will appear on the display and the sample voice data will not be copied. If this occurs, use Sample Job "02 Delete" (Page 246) to delete unused local samples then try again.
> - Undo/Redo (Page 213) cannot be used to undo/redo a sample voice copy operation.
> - When the "Sample" box is checked and the [F4] (DO!) button is pressed, the "Are You Sure? Cancel [F2]/OK [F3]" confirmation prompt will appear. [F3] will execute the Split Song to Pattern job.

28 Clear Song

This job deletes all data from the selected song or all songs. Scene/mute memory data is also cleared.



1 Song

[Settings] 01 ~ 20, ALL

2 KEEP COMMON SAMPLES

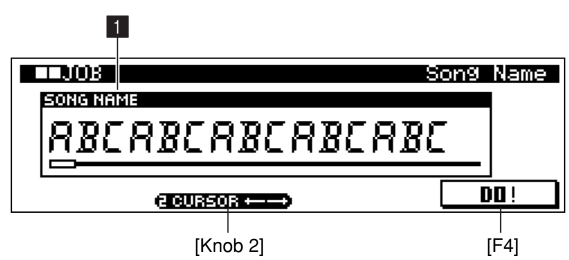
If the checkbox is checked, the common sample voices used by the specified songs will not be cleared.

> **NOTE**
> Local sample voices used by the specified song will be cleared regardless of this setting.

29 Song Name

Use this job to enter or change a song name. The name can be up to 16 characters long.

> **NOTE**
> Songs cannot be selected from this display. Select the song you want to name or rename while in the SONG Play mode.



1 SONG NAME

Enters the song name.
Refer to "Chapter 1: Basics", page 67, for details on name entry.

14. Song Editing

In addition to editing and deleting data recorded in songs, this sub mode allows insertion of new events.
It can be used to correct mistakes as well as add dynamics or effects such as vibrato to refine and finish the song.
Press [EDIT] from the SONG Play mode to go to the song Edit Change page.
Press [EDIT] twice from the SONG Play mode to go to the View Filter page.
Details are the same as in the PATTERN mode (Page 154).

> **NOTE**
> - Before entering the Song Edit mode be sure to turn Memory Protection OFF (Page 257). If memory protection is ON “Memory Protected” will appear when the [EDIT] button is pressed and it will not be possible to enter the song edit mode.
> - Events include note events, program change events, and all other events that can be recorded in a song track.

Song Edit Procedure

● To Edit Track 1 ~ 16

The procedure is the same as for phrase editing in the PATTERN mode (Page 154).

● To Edit the BPM or SCENE/MUTE Track.

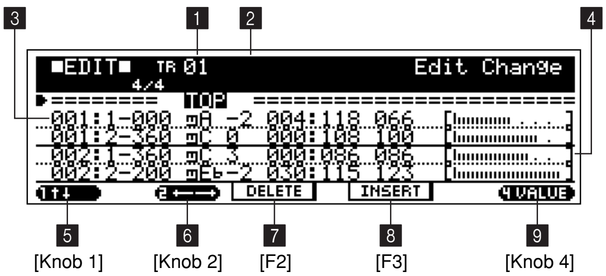
1. Select the song you want to edit in the SONG Play mode.
2. After pressing the [KEYBOARD] button so that its indicator goes out, select the track to be edited by using the keyboard [TR-] and [TR+] keys while holding the [TRACK SELECT] button.
3. Press [EDIT] to go to the SONG Edit Change page.
4. Use [Knob 1] (↑↓) to move the cursor to the event to be edited.
5. Use [Knob 2] (← →) to move the cursor to the event parameter to be edited, and use [Knob 4] (VALUE) to change the value as required. An edited event will flash on the display.
   - The measure, beat, and clock of an even can be edited to change its location.
   - While an event is flashing (being edited), you can use the SUB MODE buttons as a numeric keypad to directly enter parameter values.
6. When the parameter has been edited as required, press [ENTER] to confirm and enter the edit (the event will stop flashing).
   - If the cursor is moved to a new event while the current event is still flashing, editing of the current event is cancelled.
7. Press [F2] (DELETE) to delete the event at the cursor position.
8. Press [F3] (INSERT) go to the Insert page if you want to insert new tempo or scene/mute events.

   Set the measure, beat, clock, and parameter, and then press [F3] (DO!) insert the event.
9. Press [EXIT] to go back to the SONG Play mode.

> **NOTE**
> The Solo function cannot be used while editing the BPM track or Scene/Mute track.

Edit Change Page

Display Parameters



1 TR (Track Number)

2 View Filter Icon

3 Measure, Beat, and Clock

4 Event and Parameters

5 ↑ ↓ (Cursor ↑ and ↓) .... **[Knob 1]**

6 ← → (Cursor ← and →).................................. **[Knob 2]**

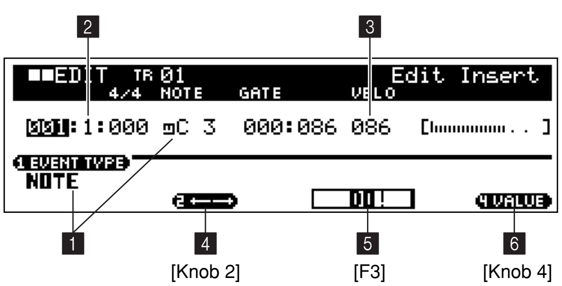
7 DELETE.. **[F2]**

8 INSERT... **[F3]**

9 VALUE .... **[Knob 4]**

Insert Page

Press [F3] (Insert) from the song EDIT page to access this page.



1 Event

2 Measure, Beat, and Clock

3 Parameter

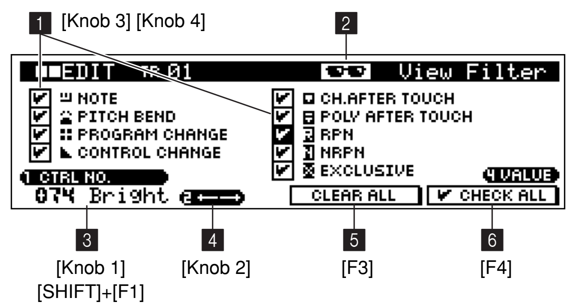
4 ← → (Cursor ← and →)................................. **[Knob 2]**

5 DO! .... **[F3]**

6 VALUE .... **[Knob 4]**

View Filter Page

Display Parameters



1 Event Checkboxes ....**[Knob 3], [Knob 4]**

2 View Filter Icon

3 CTRL NO (Control Number)

..........................**[Knob 1], [SHIFT]+[F1] → Numeric Keypad**

4 ← → (Cursor ← and →)................................. **[Knob 2]**

5 CLEAR ALL.. **[F3]**

6 CHECK ALL .... **[F4]**

Chapter 5. The Sampling Mode

About the Sampling Mode 228
1. Recording Samples (Sampling) 229
2. The Real Time Loop Remix Function 239
3. Sample Editing.. 241
4. The Sample Jobs 244

About the Sampling Mode

The SAMPLING mode is used to record and edit samples.

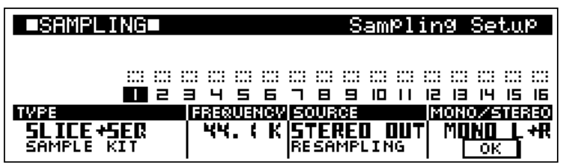
> **NOTE**
> Samples are digitally recorded audio waveform data complete with "sample parameters" which define how the sample will play back.

The Sampling Sub Modes

The SAMPLING mode has the following 3 sub modes.

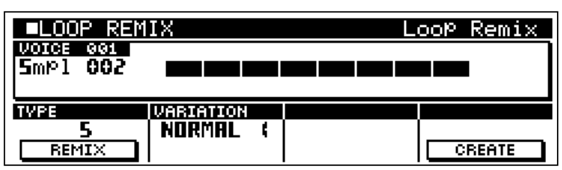
● SAMPLING [STANDBY/START/STOP]...(Page 229)

Used for recording samples.



● Real Time Loop Remix [REAL TIME LOOP REMIX] ...(Page 239)

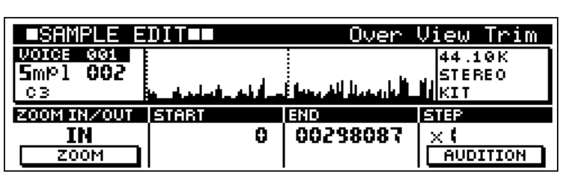
Controls the Real Time Loop Remix function for remixing recorded samples.



> **NOTE**
> - The Real Time Loop Remix function divides the performance data on the selected track and rearranges a part of the data to create new variations. This is effective when applied to a track which has been recorded using the Slice Sampling function.
> - The Real Time Loop Remix function can only be used in the PATTERN mode.

● Sample Edit [SAMPLE EDIT]...(Page 241)

Allows recorded samples to be edited.



1. Recording Samples (Sampling)

The SAMPLING mode is used to record and edit samples.

> **NOTE**
> Samples are digitally recorded audio waveform data complete with “sample parameters” which define how the sample will play back.
> - Before sampling be sure that the utility mode memory protect function is off (Page 257). If it is ON “Memory Protected” will appear and it will not be possible to enter the sampling mode when the [STAND BY/START/STOP] button is pressed.

Sampling Features

● Sample kit voices & pitched voices.

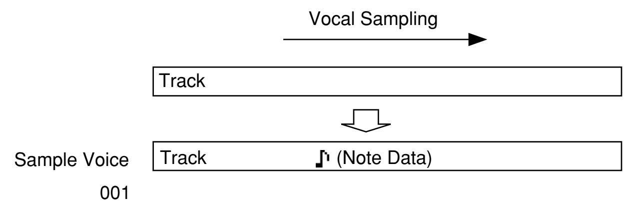
Sample voices are divided into two types: “sample kit voices” and “pitched voices”.
“Sample kit voices” allow up to 128 different samples to be assigned to different notes from C-2 to G8. Different samples can thus be played individually or simultaneously as required. Stereo samples use up two of the available assignments, so up to 64 stereo samples can be assigned to one sample kit voice.
Pitched voices play one sample at appropriate pitches across the range of the keyboard.

● Local sample voices & common sample voices.

Sample voices can be either “local” or “common”.
Local sample voices are used by a specific song or style. Up to 128 local sample voices can be saved with each song or style. If you have samples you want to use in a number of styles or songs, they should be used as “common sample voices” (below).
Common sample voices are available for use by all songs and styles. Up to 128 common sample voices can be stored in the RS7000 memory at a time. The sample contents and program number/voice relationship remains the same even when songs or styles are switched.
The maximum total number of sample voices — local for all songs/styles as well as common — that can be stored in the RS7000 memory at any one time is 256.

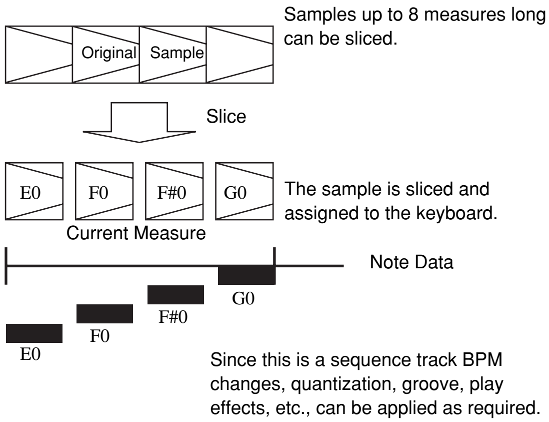
● Recording samples is like using a multitrack recorder.

When the KIT+NOTE sampling type is selected, the recorded sample is not only saved as a sample voice, but the note data required to play the sample back is automatically created as well.
For example, if a vocal sample is recorded while listening to playback of other tracks, the recorded sample will be played back exactly as it was recorded in relation to the other tracks — just like a multitrack recorder. Since what was actually recorded was the vocal sample and the note data required for playback, the data can be edited later to modify the sample and the way it plays back in a variety of ways.



● Tempo changes, quantization, groove, play effects and more can be applied to recorded samples.

If the SLICE+SEQ sampling type is selected the recorded audio is automatically “sliced” into a number of samples based on the specified note length, then the samples are assigned to different notes begining from E0 to create a sample kit voice. Furthermore, the note data required to play back the individual samples as they were recorded is automatically created in a sequence track.
For example, if a 1-measure drum pattern is sampled and a quarter-note size is specified, the recorded measure will be sliced into (approximately) four samples which will be assigned to the E0, F0, F#0, and G0 notes on the keyboard.



The SLICE+SEQ sampling type is best suited for sample break-beats and phrases. Slicing is not appropriate for recording one-shot drum samples or similar samples.

● **Also functions as a regular sampler.**

When the KIT or PITCH sample type is selected the sample data is recorded without creating any note data, just like a conventional sampler.

● **Sample voices are played by being assigned to tracks.**

To play back a sample voice use the PATTERN or SONG mode MIXER sub mode Voice Select page to assign the sample voice to a sequencer track. Assigned sample voices can be played by the sequencer as well as the keyboard and velocity pads. Depending on the sample type, single notes or chords can be played via the keyboard (Pitched Voice), or separate samples can be played by each key (Sample Kit Voice). Using the Velocity Pads you can play a single sample at different pitches with velocity (Pitched Voice), or play 2 separate samples with velocity (Sample Kit Voice).

Sampling Procedure

1. Press [UTILITY] to go to the system page and execute the wave memory optimize function.
2. In the PATTERN or SONG mode select the track to be sued for sampling by pressing a white key on the keyboard while holding the [TRACK SELECT] button.
3. Press [MIXER] to go to the MIXER page and select the sample voice number to which you want to record the new sample.
4. From the PATTERN or SONG mode press the [SETUP] button twice to go to the A/D Setup page, and use [Knob 1] to set the INPUT GAIN as required.
5. From the PATTERN or SONG mode press the [STANDBY/START/STOP] button to go to the Sampling Setup page.
6. Use [Knob 1] ~ [Knob 4] to set the sampling TYPE, FREQUENCY, SOURCE, etc., as required.
7. Press [F4] (OK) to go to the sampling standby page.
   Depending on the selected sampling type, if the selected sequencer track already contains data, "Sequence or Sample exists. Cancel (F2)/Replace (F3)?" will appear on the display. Press [F3] to overwrite the existing sample.
8. Use [Knob 3] (TRIGGER MODE) and [Knob 4] (TRIGGER LEVEL)/(PUNCH IN/OUT) to set the trigger mode and trigger level or punch-in/out measures as required.
   Use the [REC VOLUME] control to adjust the recording level.
9. Press [STANDBY/START/STOP] to begin sampling.

If TRIGGER MODE = MANUAL

Sampling will begin the instant the [STANDBY/START/STOP] button is pressed. Press [STANDBY/START/STOP] a second time to stop sampling.

If TRIGGER MODE = LEVEL

Pressing [STANDBY/START/STOP] engages the trigger wait mode, and sampling will begin automatically as soon as the input signal exceeds the specified trigger level. Sampling ends when the [STANDBY/START/STOP] button is pressed.

If TRIGGER MODE = MEASURE

Pressing [STANDBY/START/STOP] engages the trigger wait mode, then after pressing [PLAY] to start sequence playback sampling will begin automatically at the specified punch-in measure. Sampling will stop automatically when the specified punch-out measure is reached.

NOTE

- When the KIT+NOTE sampling type is selected sequence playback will begin automatically when the [STANDBY/START/STOP] button is pressed. Sampling will always be synchronized with sequencer playback. In this case sequence playback cannot be started from the Sampling Standby page.
- Sequence playback will not start automatically when the SLICE+SEQ, KIT, or PITCH type is selected. Press [PLAY] from the Sampling Standby page in order to synchronize sampling with sequencer playback.

10. When the SLICE+SEQ sampling type is selected the Trim page will appear automatically when sampling finishes. Use [Knob 1], through [Knob 4] to set the parameters as required. When the sampling type is KIT, KIT+NOTE, or PITCH the sampling mode will be exited.

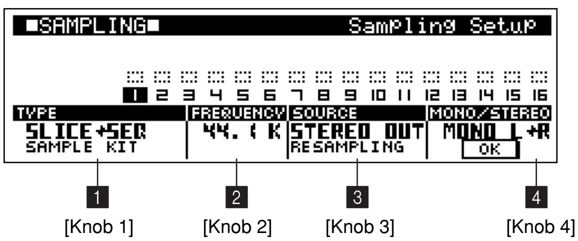
11. Press [F4] (OK) to execute the Trim and Normalize functions, and go on to the Slice page.

12. Use [Knob 1] (MEAS) ~ [Knob 4] (SENS) to set the parameters, then press [F4] (DO!) to execute the Slice operation and then [F3] (CREATE) to create the sample and sequence data.

Display Parameters

Sampling Setup Page

[STANDBY/START/STOP]



1 TYPE (Sampling Type) ....[Knob 1]

[Settings] SLICE+SEQ, KIT, KIT+NOTE, PITCH

SLICE+SEQ ...... **The recorded sample is divided into "slices", the size of which are determined by the specified note length. The resultant samples are then saved as a single Sample Kit Voice. The note data required to play the Sample Kit Voice thus created is also created automatically. This process can use as much as three times the sampling memory required by normal sampling. See page 237 for details on the amount of memory required. It is a good idea to use the OPTIMIZE function (Page 259) prior to execution.**

KIT .... **The recorded sample is saved as a sample kit voice, or assigned to the specified key of existing sample kit voices.**

KIT+NOTE .... **The recorded sample is saved as a sample kit voice, or assigned to the specified key of existing sample kit voices. The note data required to play recorded samples is created automatically.**

PITCH .... **The recorded sample is saved as a Pitched Voice.**

Determines the type of sample voice created when a sample is recorded, and whether the note data required to play the recorded sample will be created automatically.

2 FREQUENCY .... [Knob 2]

[Settings] 44.1 k (44.1 kHz), 22 kLo (22.05 kHz Lo-Fi), 11 kLo (11.025 kHz Lo-Fi), 5 kLo (5.5125 kHz Lo-Fi)

Specifies the sampling frequency. The 22 kLo, 11 kLo, 5 kLo, settings add digital noise for a lo-fi sound.

NOTE

- At settings other than 44.1 kHz, the sound monitored during recording may be different from the recorded sound, depending on the source signal.
- When the DIGITAL or OPTICAL source option is selected, input sampling rates with sampling frequencies of 48 kHz, 44.1 kHz, and 32 kHz are supported. However in any case, the data will be converted to the RS7000's own sampling frequency of 44.1 kHz for recording.
- Digital output is possible when the optional AIEB2 I/O Expansion Board is installed, but the output sampling frequency is fixed at 44.1 kHz. Also, an input digital signal cannot be simultaneously monitored via a digital output.

3 SOURCE .... [Knob 3]

[Settings] A/D INPUT, STEREO OUT (RESAMPLING), DIGITAL, OPTICAL

A/D INPUT .... **A signal applied to the rear-panel INPUT L and R connectors is sampled.**

STEREO OUT (RESAMPLING)
........The signal output from the RS7000 stereo outputs is "resampled".

DIGITAL............ **Selects the digital coaxial input when the optional AIEB2 I/O Expansion Board is installed.**

OPTICAL .... **Selects the digital optical input when the optional AIEB2 I/O Expansion Board is installed.**

Selects the input via which the signal to be sampled will be received.

NOTE
- The DIGITAL and OPTICAL settings can only be effective when the optional AIEB2 I/O Expansion Board is installed.
- When DIGITAL or OPTICAL is selected the digital input signal will simultaneously be output via the OUTPUT connector, while the sound produced by the RS7000 will be output via the DIGITAL OUT and OPTICAL OUT connectors.
- Resampling allows samples to be re-recorded after application of filtering, effects, and other processing. The RS7000 allows the output from sequencer tracks to be resampled, new samples can be created from complex combination of multiple samples and sequence data. The entire content of a pattern can be easily turned into a single sample. When resampling it is necessary to select the sampling destination track (the selected destination track will not play or be sampled).

4 MONO/STEREO ....[Knob 4]

[Settings] MONO L, MONO R, MONO L+R, STEREO

- **MONO L** .... **The L-channel signal will be recorded as a mono sample.**
- **MONO R** .... **The R-channel signal will be recorded as a mono sample.**
- **MONO L+R** .... **The L-channel and R-channel signals will be mixed and recorded as a mono sample.**
- **STEREO** .... **A stereo sample will be recorded. Only the STEREO option will be available when the DIGITAL or OPTICAL source is selected.**

Specifies whether the input signal will be recorded as a mono or stereo sample.

5 OK...[F4]

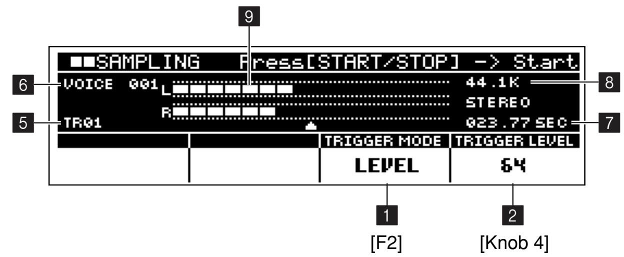
Calls the sampling standby page and engages the sampling standby mode. Pressing [STANDBY/START/STOP] has the same effect.

Sampling Standby Page

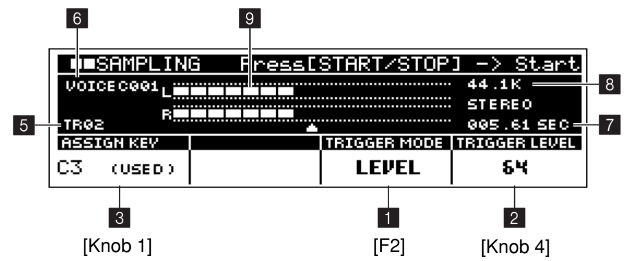
[STANDBY/START/STOP] → [F4] or [STANDBY/START/STOP]

When this display is showing pressing the [STANDBY/START/STOP] executes sample recording, calling the Sampling Execution page (Page 234) or the trigger wait page (Page 233).

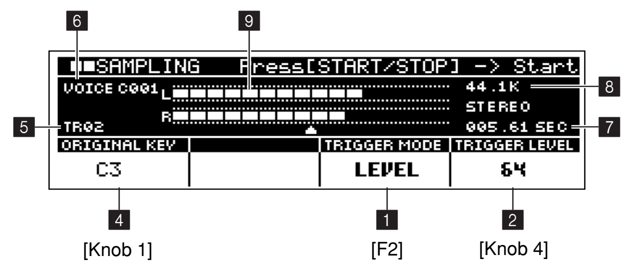
SAMPLE TYPE = SLICE+SEQ



SAMPLE TYPE = KIT, KIT+NOTE



SAMPLE TYPE = PITCH



1 TRIGGER MODE .... [F2]

[Settings] LEVEL, MEASURE, MANUAL

- **LEVEL** .... **Sampling will begin as soon as an input signal exceeding the specified trigger level is received.**
- **MEASURE** .... **Sampling will begin at the specified punch-in measure, and end at the specified punch-out measure.**
- **MANUAL** .... **Sampling will begin as soon as the [STANDBY/START/STOP] button is pressed.**

Specifies the method by which sampling will be triggered.

NOTE
When the SLICE+SEQ sample type is selected and you want to accurately slice the sample according to the specified note length, it is best to set the TRIGGER MODE to MEASURE.

2 TRIGGER LEVEL, PUNCH-IN/OUT ....[Knob 4]

[Settings] TRIGGER LEVEL 0 ~ 127
PUNCH-IN/OUT
PATTERN MODE ..... PUNCH-IN 001 ~ 255,
PUNCH-OUT 002 ~ 256, END
SONG MODE .... PUNCH-IN 001 ~ 998,
PUNCH-OUT 002 ~ 999

Sets the trigger level when the LEVEL trigger mode is selected, or the punch-in and punch-out measures when the MEASURE trigger mode is selected.
The trigger level is the signal level at which sampling will begin.
The punch-in/out measures are the measure numbers at which sampling will begin and end. Press [F4] to move the cursor to move the cursor to the PUNCH-OUT parameter.

3 ASSIGN KEY..[Knob 1]

[Settings] C-2 ~ G8

This parameter is available when the KIT or KIT+NOTE sample type is selected.
Specifies the Sample Kit Voice note to which the recorded sample will be assigned.
If a sample is already assigned to the specified note "USED" will appear, and "EMPTY" will appear if the specified note is unassigned.
A sample previously assigned to the specified note will be erased and replaced by the newly assigned sample.

4 ORIGINAL KEY..[Knob 1]

[Settings] C-2 ~ G8

This parameter is available when the PITCH sample type is selected.
Specifies the key (note) that will play the sample at the pitch at which it was originally recorded.

5 Track Number

[Settings] 01 ~ 16

The number of the selected track

6 Sample Voice Number

The currently selected sample voice number (the number of the next empty sample voice if a sample voice is not currently selected). The displayed sample voice will be overwritten when sampling is executed. 001 ~ 128 are local sample voices, and C001 ~ C128 are common sample voices.

NOTE

Select a sample voice via the PATTERN or SONG mode MIXER Voice Select page (Page 93, 194) before press the [STANDBY/START/STOP] button to go to the sampling mode.

7 Sampling Time

Displays the available sampling time.

NOTE

- The total amount of available sampling time depends on the amount of memory installed.
- Sampling time can sometimes be increased by executing the OPTIMIZE function.
- The sampling time will not be displayed when the SLICE + SEQ sampling type is selected.

8 Sampling Frequency, Mono/Poly

Displays the sampling frequency and mono/stereo settings made in the Sampling Setup page (Page 231).

9 Level Meter

Displays the level of the input signal. A clipping indicator will appear to the right of the level meter if the input signal is too large.

NOTE

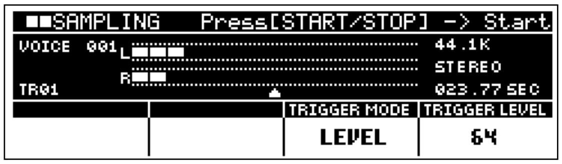
- The input signal level can be adjusted by using the [REC VOLUME] control when the A/D INPUT source is selected.
- When the STEREO OUT source is selected use the PATTERN or SONG mode MIXER sub mode settings (Page 93, 194) to set the levels of each track.
- If the input signal is too large when the A/D INPUT source is selected and the [REC VOLUME] control cannot provide enough adjustment, or if the input level is too small, try changing the input gain setting. Press [SETUP] twice from the SONG or PATTERN mode to go to the A/D Setup page, then use [Knob 1] to select MIC or LINE, as required.
- Try to get the input level as high as possible without clipping for the best sound quality.
- The input level cannot be adjusted when the DIGITAL or OPTICAL source is selected.

Trigger Conditions Page

This display appears while waiting for the sampling trigger.
This page is selected by pressing the [STANDBY/START/STOP] button when the TRIGGER MODE is set to LEVEL or MEASURE. Sequencer playback will begin automatically if the sample type is set to KIT+NOTE.

> **NOTE**
> When the TRIGGER MODE is set to MANUAL sampling will begin as soon as the [STANDBY/START/STOP] button is pressed.

[STANDBY/START/STOP] → [F4] or [STANDBY/START/STOP] → [STANDBY/START/STOP]



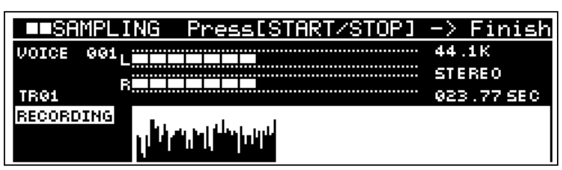
From this display sampling will begin according to the following conditions:

- If TRIGGER MODE = LEVEL … Sampling will begin automatically as soon as the input signal exceeds the specified trigger level.
- If TRIGGER MODE = MEASURE … Press [STANDBY/START/STOP] after pressing [PLAY] from the Sampling Standby page to start sequence playback. Sampling will begin automatically at the specified punch-in measure.

The Sampling Execution Page will appear when sampling begins.

Sampling Execution Page

This display appears during sampling.



From this display sampling will end according to the following conditions:

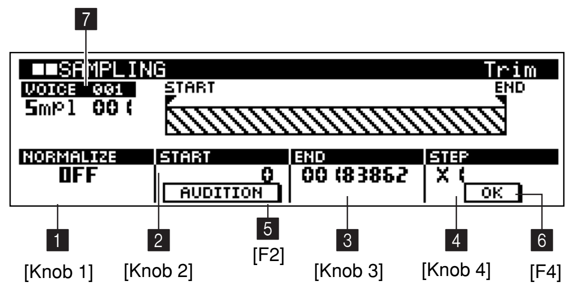
- If TRIGGER MODE = MANUAL or LEVEL … Sampling will end as soon as the [STANDBY/START/STOP] button is pressed. If sequencer playback started automatically when sampling was started, pressing the [STOP] button to stop playback will also end sampling. Sampling will also end if the pattern or sequence plays all the way through to the end and stops automatically.
- If TRIGGER MODE = MEASURE … Sampling will end automatically when the specified punch-out measure is reached. Or sampling will end if the [STANDBY/START/STOP] button is pressed.

The Trim page will appear when sampling ends and the SLICE + SEQ sampling type is selected.

Trim Page

The trim function makes it possible to specify the beginning and end points of a measure within a sample to allow appropriate slicing. Data prior to the specified beginning of the measure and data after the specified end of the measure will be deleted, thus reducing the overall data size.
The Trim page is automatically selected after sampling when the SLICE+SEQ sample type is selected.

> **NOTE**
> To ensure proper slicing the sample should be trimmed so that it loops cleanly. Loop playback begins when the [F2] (AUDITION) button is pressed, making it easy to hear even slight changes in the sample length.



1 NORMALIZE .... [Knob 1]

[Settings] OFF, ON

OFF ....No normalization.
ON....................The sample will be normalized.

Normalization achieves the highest possible sample level by finding the highest level in the target sample and increasing the overall sample level so that the peak level is just below clipping. This function is used to increase the sound quality of recorded samples.

Normalize

> **NOTE**
> Since slicing divides a sample into multiple segments, normalization while maintaining the overall level relationship between the divided samples is not possible after slicing. When normalization is necessary it should be applied before slicing.

2 START Point ....[Knob 2]

[Settings] 0 ~ End Point

Specifies the point in the sample that is to be the beginning of the measure. When the Trim function is executed only the portion of the sample between the START and END points will remain. All other data will be deleted.

> **NOTE**
> The sample is played back from the START point when the [AUDITION] button is pressed, so use this capability to precisely locate the desired start point. If the timing of the first desired beat or sound is cut off or delayed when the [AUDITION] button is pressed, adjust the START point so that it is heard exactly on the beat.

3 END Point ....[Knob 3]

[Settings] START Point ~ End of sample

Specifies the point in the sample that is to be the end of the measure. When the Trim function is executed only the portion of the sample between the START and END points will remain. All other data will be deleted.

> **NOTE**
> Set the END point after setting then START point. The sample will loop while the [AUDITION] button is held, so you can hear precisely if the END point is set at the appropriate location.

4 STEP..[Knob 4]

[Settings] ×1, ×10, ×100, ×1000, ×10000, ×100000

Sets the "magnification factor" to be used when [Knob 2] and [Knob 3] are used to specify the START and END points. Higher settings allow higher value changes.

5 AUDITION...[F2]

The sample will loop between the specified START and END points while this button is held. This lets you hear precisely how the settings are affecting the sample.

6 OK...[F4]

Executes the normalize and trim operations.
The Slice page will appear automatically after execution.

7 VOICE (Sample Voice Number)

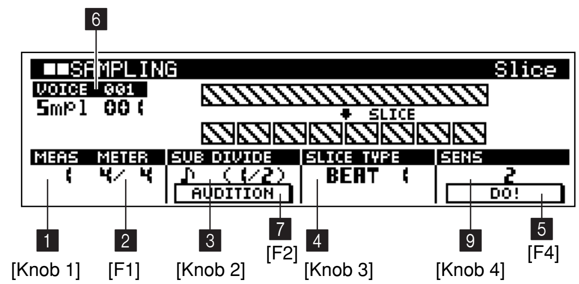
The sample voice number to which the sample will be saved. 001 ~ 128 are local sample voices; C001 ~ C128 are common sample voices.

Slice Page

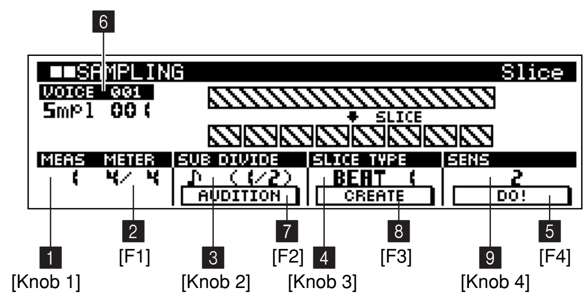
The recorded sample is divided in to a number of "slices", the size of which is determined by the specified note length.
When the SLICE+SEQ sample type is selected, this page can be selected from the Trim page by pressing [F4] (OK).

> **NOTE**
> It is necessary to accurately adjust the length of the sample before executing the slice operation. Use the [F2] (AUDITION) button in the Trim page to loop the sample and precisely set the trim START and END points as required.

- **The Initial Slice Display**



- **The Display After Slice Has Been Executed**



1 MEAS (Measure).. [Knob 1]

[Settings] 1 ~ 8

Specifies the number of measures in the sample to be sliced.
When the slice operation is executed, sequence data corresponding to the specified number of measures is created. The sequence data is created from the beginning of the nearest measure at the point at which sampling is started.

2 METER.. [F1] → [Knob 1]

[Settings] 1/16 ~ 16/16, 1/8 ~ 16/8, 1/4 ~ 8/4

Specifies the meter (time signature) of the sample.

> **NOTE**
> - The time signature specified here defines the basic number of slices per measure for sample slicing.
> - The maximum slice resolution for stereo samples is 64 slices, and for mono samples 128 slices.
> - When the number of slices exceeds 100, the 101st and higher samples will be assigned to the keyboard beginning at C-2.

3 SUB DIVID (Sub Divide)..................................[Knob 2]

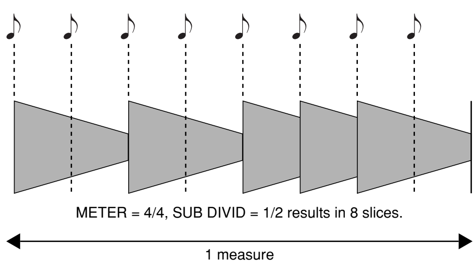
[Settings]

When METER = 1 ~ 8/4
........quarter note (1/1), 8th note (1/2), 8th note triplet (1/3), 16th note (1/4), 16th note triplet (1/6), 32nd note (1/8), 32nd note triplet (1/12)

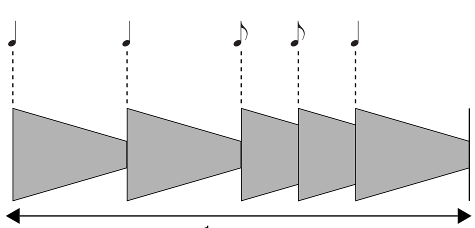
When METER = 1 ~ 16/8
........8th note (1/1), 16th note (1/2), 16th note triplet (1/3), 32nd note (1/4), 32nd note triplet (1/6)

When METER = 1 ~ 16/16
........16th note (1/1), 32nd note (1/2), 32nd note triplet (1/3)

The METER parameter sets the basic slice unit, and SUB DIVID specifies even finer resolution for phrases containing regions with shorter notes
In the example below METER = 4/4 and SUB DIVID = 1/2.



This parameter is not available when the slice type is BEAT 1~2, and the sample will be sliced on the transients, as shown below.



> **NOTE**
> The maximum slice resolution for stereo samples is 64 slices, and for mono samples 128 slices.

4 SLICE TYPE .... [Knob 3]

[Settings] BEAT 1~3, PHRASE 1~4, QUICK

BEAT 1~3 ....This slice type is suited for percussive phrases such as drums or bass with a fast attack and short decay. 3 variations are provided.

PHRASE 1~4 ...Ideal for phrases containing cymbals or other instruments with a long decay. 4 variations are provided.

QUICK...............Regardless of the phrase content, the sample is divided at the specified note sub divisions. The number of slices per measure = (the METER numerator) × (the SUB DIVID denominator).

Specifies how the sample is sliced, and to some extent the resulting sound quality. Select the type that best suits the original phrase.
See below for tips on selecting the appropriate slice type.

[Slice Type Selection Tips]

● When slicing percussive phrases with short decay

- First try slicing using the BEAT1 type. Try adjusting the slice sensitivity for finer control.
- If the result has a weak attack or the release portions of the phrase seem to overlap, try again using the BEAT2 type. Try adjusting the slice sensitivity for finer control.
- If after using BEAT1 the attack portions overlap or the rhythmic feel is degraded, try again using BEAT3. Adjust the SUB DIVID parameter for broad control of the slice fineness, and use Sens for final adjustment.

● When slicing phrases with a long decay.

- First try slicing using the PHRASE1 type. Adjust the SUB DIVID parameter for broad control of the slice fineness, and use Sens for final adjustment.

- If the result has a weak attack or the release portions of the phrase seem to overlap, try again using the PHRASE2 type. Adjust the SUB DIVID parameter for broad control of the slice fineness, and use SENS (Slice Sensitivity) for final adjustment.
- If after using PHRASE2 the points at which the slices join sound rough, try again using PHRASE3 and set the SUB DIVID parameter for a finer slice. Adjust the SUB DIVID parameter for broad control of the slice fineness, and use SENS (Slice Sensitivity) for final adjustment.
- PHRASE4 is best for sustained strings or brass type sounds with vibrato, as well as vocal phrases.
- If after using PHRASE1 the points at which the slices join sound rough, try again using PHRASE4 and set the SUB DIVID parameter for a coarser slice. Adjust the SUB DIVID parameter for broad control of the slice fineness, and use SENS (Slice Sensitivity) for final adjustment.

NOTE

- The results of a slice operation can be checked by using the [TAP] button to change the BPM and then holding [F2] (AUDITION) to hear looped playback of the sequence. If you need to change the coarseness or fineness of the slices, adjust the SUB DIVID envelope sensitivity and press [F4] (DO!) to re-slice the sample.
- If the sliced sample does not connect smoothly, try setting a longer AEG release time. Further if the sample sounds “doubled” try a smaller play effect gate time rate setting.
- If the slice operation produces the desired results, execute CREATE (below) to actually create the sequence and Sample Kit Voice.

5 DO!...[F4]

Executes the slice operation. The settings can be changed as many times as necessary before pressing [F3] (CREATE).

6 VOICE (Sample Voice Number)

The sample voice number to which the sample will be saved. 001 ~ 128 are local sample voices; C001 ~ C128 are common sample voices.

7 AUDITION...[F2]

Hold to hear looped playback of the sequence created by the slice operation.

8 CREATE..[F3]

Creates a Sample Kit Voice from the sliced sample, creates the corresponding sequence in the current track, and then returns to the main display.

9 SENS (Slice Sensitivity)................................. [Knob 4]

[Settings] 1 ~ 5

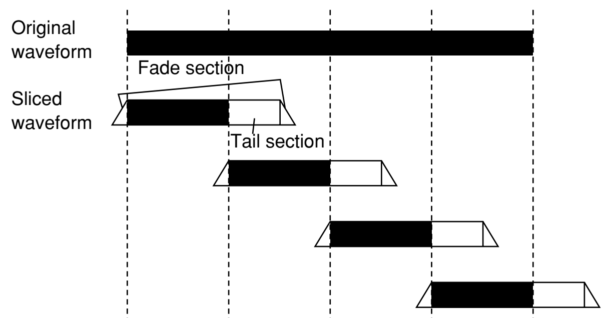
Further adjusts the sub-divisions specified by the SUB DIVID parameter. Higher values result in higher resolution, allowing even finer notes and smaller sounds to be detected and sliced.
Use [AUDITION] to hear the results, and if they aren’t satisfactory change the setting and try again.

NOTE

This parameter has no effect when the QUICK slice type is selected.

Wave Memory Required for Slice Operations

Individual wave data slices created through slice operations required approximately 1.5 times the original memory because a tail section is automatically added and fade-in and fade-out sections are automatically created at the beginning and end of the wave data. This helps to maintain maximum sound quality when the BPM is increased, and results in smoother connections between slices (no tail section is created when the QUICK slice type is selected).



A memory work area is required for the synthesis calculations carried out for each slice operation, as well as sufficient memory to hold the completed waveforms.
When the sampling frequency is 44.1 kHz, the approximate amount of memory required for each slice type is listed below.

BEAT1	: Original wave size × N + (0.3 × number of slices) kilobytes.
BEAT2	: Original wave size × N + (0.2 × number of slices) kilobytes.
BEAT3	: Original wave size × N + (0.3 × number of slices) kilobytes.
PHRASE1	: Original wave size × N + (5.8 × number of slices) kilobytes.
PHRASE2	: Original wave size × N + (1.4 × number of slices) kilobytes.
PHRASE3	: Original wave size × N + (0.4 × number of slices) kilobytes.
PHRASE4	: Original wave size × N + (1.4 × number of slices) kilobytes.
QUICK	: Original wave size × 3 + (0.7 × number of slices) kilobytes.

For monaural samples N = 5.5, and for stereo samples N = 8. Also, the number of slices is doubled for stereo samples.

With the memory expanded to the maximum 64 megabytes, for example, if the entire memory is empty and a 44.1 kHz sample is sliced to 32 slices, the longest possible sampling time will be approximately:

BEAT1~3, PHRASE1~4: approx. 138 seconds (mono), 47 seconds (stereo). QUICK: approx. 253 seconds (mono), 126 seconds (stereo).

2. The Real Time Loop Remix Function

Real Time Loop Remix can be used to re-arrange the performance data in a track.
Since the MIDI data is remixed and the samples are unaffected, the data can be remixed in real time.
This function is particularly effective when used on a track which contains samples recorded using the SLICE+SEQ sample type or samples sliced using the sample slice job.
Since it is the MIDI data which is remixed, this function can also be used on normal sequence data.

Real Time Loop Remix Features

● **The Real Time Loop Remix function divides the data in a selected track in the PATTERN mode to a variety of note lengths, and randomly rearranges a portion of the data to create totally new variations.**

● **The Real Time Loop Remix function works by rearranging MIDI data.**

When used on a track containing a sliced sample (i.e. a sample recorded with the SLICE+SEQ sample type selected, or a sample sliced using the slice sample job), the various segments of the sample are rearranged with varied timing.
When used on samples recorded using the KIT, KIT+NOTE, or PITCH sample type, the playback timing of the entire sample may be changed but the sample itself will be unaffected.
This function is also effective when used on normal sequence data.

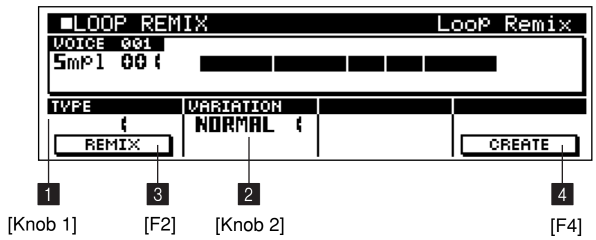
> **NOTE**
> Not available in the SONG or PATTERN CHAIN modes.

Real Time Loop Remix Procedure

1. Press [LOOP REMIX] to go to the Real Time Loop Remix page.
2. Use [Knob 1] (TYPE) and [Knob 2] (VARIATION) to select the remix type and variation.
3. Press [F1] (REMIX) to remix the data and change the arrangement of the pattern being played back.
4. Press [F4] (CREATE) and the new sequence data created by the Real Time Loop Remix function will be saved in the current track.

Display Parameters

[LOOP REMIX]



1 TYPE (Remix Type) .... **[Knob 1]**

[Settings] 1 ~ 16

Determines how the data in the selected track will be divided and rearranged. The division and rearrangement rules are different for each remix TYPE.

2 VARIATION (Remix Variation) .... **[Knob 2]**

[Settings] NORMAL 1 ~ 16, REVERSE 1 ~ 16, BREAK 1 ~ 16, PITCH 1 ~ 16, ROLL 1 ~ 16

NORMAL 1 ~ 16 ....**The original data is only divided and rearranged. 16 variations are provided.**

REVERSE 1 ~ 16.......**In addition to division and rearrangement, some portions of the data may be played in reverse. 16 variations are provided.**

BREAK 1 ~ 16 ....**In addition to division and rearrangement, some portions of the data may be deleted to create breaks. 16 variations are provided.**

PITCH 1 ~ 16 ....**In addition to division and rearrangement, some portions of the data may be pitch-shifted. 16 variations are provided.**

ROLL 1 ~ 16 ....**In addition to division and rearrangement, some portions of the data may be played with a roll effect. 16 variations are provided.**

Determines how the original performance data will be modified.

3 REMIX ....[F1]

Loop remixing based on the specified TYPE and VARIATION begins when this button is pressed. To end remixing and resume normal playback press the [EXIT] button.

4 CREATE ....[F4]

Saves the new sequence data created by the Real Time Loop Remix function in the current track.

NOTE

- Since the remixed data is saved as a new phrase and assigned to the current track, the original phrase data remains as an unassigned phrase.
- When the track uses a sample voice and VARIATION = REVERSE 1~16, PITCH 1~16, “Overwrite Sample Voice? Cancel [F2]/OK [F3]” will appear. Press [F3] to execute CREATE and overwrite the original sample voice with the new data. Press [F2] to abort.
- “Memory Protected” will appear when the memory protect function is ON. Go to the utility mode system page (Page 257) and turn memory protection OFF, then try again.

3. Sample Editing

Samples can be edited in this mode.

NOTE
- Samples are digitally recorded audio waveform data complete with “sample parameters” which define how the sample will play back.
- Before using the sample edit mode be sure to turn the UTILITY mode Memory Protect function OFF (Page 257). If the Memory Protect function is ON, “Memory Protected” will appear on the display when the [SAMPLE EDIT] button is pressed and it will not be possible to enter the edit mode.
- If no sample is assigned to the currently selected track, the sample job list page will appear when the [SAMPLE EDIT] button is pressed and it will not be possible to enter the edit mode.
- Sample Edit cannot be accessed from the PATTERN Chain mode.
- The “Undo” function cannot be used to undo sample edit operations.

Sample Edit Features

- **Samples can be directly edited in the Sample Edit mode.**
- **Samples assigned to any track of the current pattern or song can be edited.**
- **Samples have four Play Modes which determine how they are played back.**

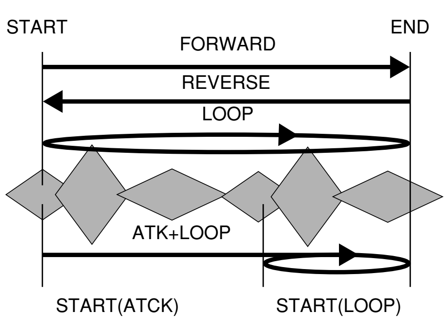
The play mode is specified in the Sample Edit Sample Parameter page (Page 242). The four play modes are listed below:

FORWARD.........The sample plays from the start point to the end point.

REVERSE...........The sample plays in reverse from the end point to the start point.

LOOP ....The sample loops repeatedly from the start point to the end point.

ATK+LOOP........After playing from the start point to the end point, the sample loops between the loop start point and the end point.



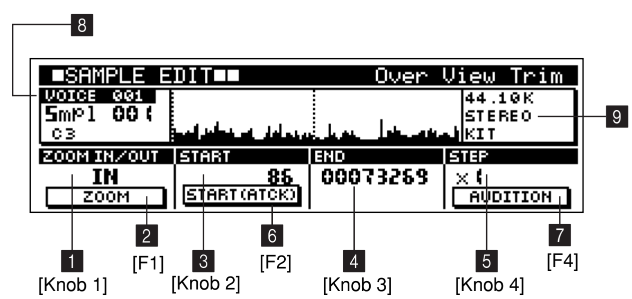
Sample Edit Procedure

1. In the PATTERN or SONG Play mode, stop playback of the sequence and then select the track to which the sample voice you want to edit is assigned (Page 73, 183).
2. Press [SAMPLE EDIT] to go to the Trim page.
3. If the selected sample voice is a Sample Kit Voice, press the [KEYBOARD] button so that its indicator lights, and then press the key on the keyboard corresponding to the sample you want to edit.
4. Use [Knob 1] ~ [Knob 4] to change the settings as required.
5. Press [SAMPLE EDIT] to go to the Sample Parameter page.
6. Use [Knob 1] ~ [Knob 4] to change the settings as required.
7. Press [EXIT] to go back to the Trim page, and then again to return to the original display.

Display Parameters

[1] Trim Page

[SAMPLE EDIT]



5
The Sampling Mode

1 ZOOM IN/OUT ....[Knob 1]

[Settings] IN, OUT

Rotate counter-clockwise to zoom in.
Rotate clockwise to zoom out.
Above a certain zoom-in level, the waveforms near the start and end points will be shown on the left and right halves of the display.

2 ZOOM ....[F1]

When the ZOOM IN/OUT parameters is set to IN or OUT, each press on this button zooms the waveform display either in or out, respectively.

3 START Point, START (ATCK) Point, START (LOOP) point ....[Knob 2]

[Settings] 0 ~ END Point

Sets the sample start and/or loop start points.

When PLAY MODE = FORWARD, REVERSE, or LOOP
Sets the START point.

When PLAY MODE = ATK+LOOP
[F2] switches between START(ATCK) and START(LOOP).
Sets the initial sample start point when START(ATCK) selected.
Sets the loop START point when START(LOOP) selected.

> **NOTE**
> The PLAY MODE parameter is set in the Sample Parameter page (Page 242).

4 END Point ....[Knob 3]

[Settings]
START Point ~ End of sample

Specifies end point of the sample.

5 STEP..[Knob 4]

[Settings] ×1, ×10, ×100, ×1000, ×10000, ×100000

Sets the "magnification factor" to be used when [Knob 2] and [Knob 3] are used to specify the START and END points. Higher settings allow higher value changes.

6 START ATCK / LOOP ....[F2]

[Settings] START(ATCK), START(LOOP)

START(ATCK)...... Sets the sample start point.
START(LOOP)...... Sets the loop start point.

When the PLAY MODE is set to ATK+LOOP this button switches the parameter to be adjusted by [Knob 2]. The button alternately selects the START(ATCK) and START (LOOP) parameters.

START(ATCK) ....Sets the initial playback start point for the sample.
START(LOOP) ....Sets the point at which the sample loop begins.

7 AUDITION.. [F4]

The sample will loop between the specified START and END points while this button is held. This lets you hear precisely how the settings are affecting the sample.

8 VOICE (Sample Voice Number)

[Settings]

Sample Voice Number
.... 001 ~ 128 are local sample voices; C001 ~ C128 are common sample voices.
Sample Name ...... Display only.
Key Number (when a Sample Kit Voice is selected)
.... C-2 ~ G8

Displays the number and name of the sample voice assigned to the currently selected track. When a Sample Kit Voice is assigned to the current track, the key number can be changed to change the sample to be edited.
Refer to "Sample Edit Procedure", step 3, on page 241 for information on changing the track and key number.

9 Sample Information

[Settings] All are display only.

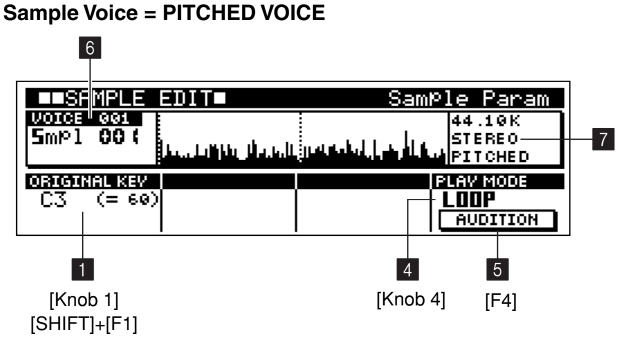
Sampling Frequency.... kHz
Mono/Stereo .... MONO, STEREO
Sample Type .... KIT (Sample Kit Voice), PITCHED (Pitched Voice)

Shows the sampling frequency, mono/stereo status, and sample type (KIT, PITCHED) of the selected sample.

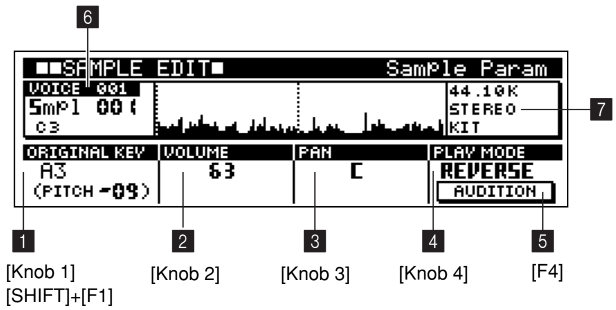
[2] Sample Parameters

[SAMPLE EDIT] × 2

Sample Voice = PITCHED VOICE



Sample Voice = SAMPLE KIT VOICE



1 ORIGINAL KEY..[Knob 1]

[Settings]

Pitched Voice

ORIGINAL KEY ... C-2 (000) ~ G8 (127)

Sample Kit Voice

ORIGINAL KEY ... C-2 ~ G8

PITCH .... -24 ~ +24 (display only)

Specifies the original key of the selected sample.
The original key is the key (note) that will play the sample at the pitch at which it was originally recorded.
[Knob 1] selects the original key.

> **NOTE**
> When the target is a Sample Kit Voice, the key to which the sample being edited is assigned is displayed in a semitone-increment pitch relationship to the specified original key note (PITCH =).
> For example, if the original key and the key of the sample being edited are the same, the pitch relationship is “PITCH = 0” and the sample will play at the originally recorded pitch.
> If the key to which the sample is assigned is one semitone higher the original key, then the pitch relationship is “PITCH = +1” and the sample will sound one semitone higher than the original key.

2 VOLUME...[Knob 2]

[Settings] 0 ~ 63

Individually sets the volume of each voice in a Sample Kit Voice.

3 PAN...[Knob 3]

[Settings] L63 ~ C ~ R63

Individually sets the pan position of each voice in a Sample Kit Voice.

4 PLAY MODE.. [Knob 4]

[Settings] FORWARD, REVERSE, LOOP, ATK+LOOP

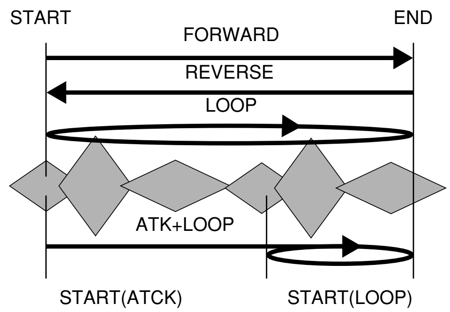
FORWARD .... **The sample plays from the START point to the END point.**

REVERSE .... **The sample plays in reverse from the END point to the START point.**

LOOP .... **The sample loops repeatedly from the START point to the END point.**

ATK+LOOP .... **After playing from the START(ATCK) point to the END point, the sample loops between the START(LOOP) point and the END point.**

Specifies the sample playback mode.



> **NOTE**
> START, START(ATCK), START(LOOP), and END are set in the Trim page (Page 241).

5 AUDITION... [F4]

The sample will loop between the specified START and END points while this button is held. This lets you hear precisely how the settings are affecting the sample.

6 VOICE (Sample Voice Number)

This is the same parameter as in the Trim page (Page 241).

7 Sample Information

These are the same as in the Trim page (Page 241).

5 The Sampling Mode

4. The Sample Jobs

13 jobs are provided for processing and modifying samples you've recorded.

> **NOTE**
> - The sample jobs are provided as a sub-mode of the SAMPLE EDIT mode. Press the [SAMPLE EDIT] button 3 times to access the sample job list.
> - Before using the sample edit mode be sure to turn the UTILITY mode Memory Protect function OFF (Page 257). If the Memory Protect function is ON, "Memory Protected" will appear on the display when the [SAMPLE EDIT] button is pressed and it will not be possible to enter the edit mode.
> - If no sample is assigned to the currently selected track, "the sample job list page" will appear when the [SAMPLE EDIT] button is pressed.
> - The "Undo" function cannot be used to undo sample edit operations.

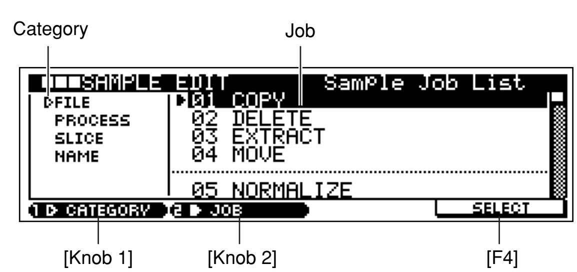
● Job List

FILE Category		
01 COPY	Copies the specified sample voice to another sample voice.	P.245
02 DELETE	Deletes the selected sample or sample voice.	P.246
03 EXTRACT	Deletes the portions of the sample prior to the specified start point and after the specified end point.	P.246
04 MOVE	Moves a sample or sample voice to a different sample voice number.	P.246
PROCESS Category		
05 NORMALIZE	Maximizes the overall level of the selected sample.	P.247
06 TIME STRETCH	Changes the length of the sample without affecting the pitch.	P.248
07 PITCH CONVERT	Changes the pitch of the sample without affecting its length.	P.248
08 FADE IN/OUT	Creates fade-in or fade-out level variations.	P.249
09 FREQUENCY CONVERT	Halves the sample's sampling frequency.	P.250
10 STEREO TO MONO	Converts a stereo sample to mono.	P.251
11 LOOP REMIX	Remixes the sample by dividing it and rearranging the sections. The sound of some sections can also be changed.	P.251
SLICE Category		
12 SLICE	Slices the sample into the specified beat units.	P.252
NAME Category		
13 SAMPLE NAME	Enters a name for the selected sample.	P.253

Sample Job Procedure

■ Call the Job List

1. Select the track to which the sample to be edited is assigned in the PATTERN or SONG play mode (Page 73, 183)
2. Press [SAMPLE EDIT] 3 times to display the sample job list.



■ Select a Job

3. Use [Knob 1] (CATEGORY) and [Knob 2] (JOB) to move the cursor to the desired job.
4. Press [F4] (SELECT) to go to the selected job page.

■ Executing Jobs 01 (COPY) ~ 04 (MOVE)

5. Use [Knob 1] (SAMPLE) and [Knob 2] (KEY) to select the target sample. Press [F2] (AUDITION) to audition the selected sample.
6. For the COPY and MOVE jobs use [Knob 3] (SAMPLE) and [Knob 4] (TYPE) to select the destination sample.
7. Press [F4] (DO!) to execute the job.
8. Press [EXIT] 4 times to return to the original display page.

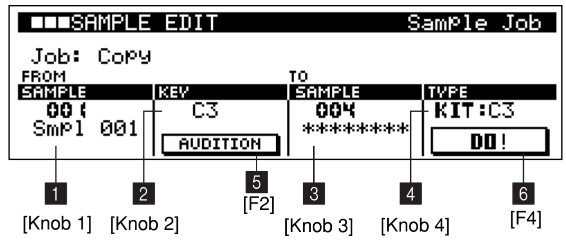
■ Executing Jobs 05 (NORMALIZE) ~ 11 (LOOP REMIX)

5. Use [Knob 1] (SAMPLE) and [Knob 2] (KEY) to select the target sample. Press [F2] (AUDITION) to audition the selected sample.
6. Use [Knob 3] and [Knob 4] to set the job parameters as required.
7. Press [F4] (DO!) to execute the job. Press [F2] (AUDITION) to audition the processed sample.
8. If the results aren't satisfactory you can re-adjust the parameters using [Knob 3] and [Knob 4] and then press [F4] (DO!) again to re-execute the job.
9. Press [F3] (CREATE) to actually save the processed sample to the target sample number, overwriting the original sample. If the original sample is a Pitched Sample it will be overwritten at this point. If the original sample is part of a Sample Kit Voice a key-number selection page will appear in which [Knob 2] can be used to select the key number. Pressing [F3] (OK) then overwrites the sample.
10. Press [EXIT] 4 times to return to the original display page.

> **NOTE**
> When the DELETE or other job has been used to delete a sample voice assigned to the currently selected track, pressing [EXIT] will skip the Sample Edit page and return to the original page.

01 COPY

Copies the specified sample to a different sample number.
When the target is a Sample Kit Voice, samples assigned to each key number can be copied individually.



1 SAMPLE (Source Sample Number).......... [Knob 1]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the source sample voice.

2 KEY (Source Key Number)........................... [Knob 2]

[Settings] C-2 ~ G8

Specifies the key number of the source sample.

> **NOTE**
> This parameter is not available when the specified source sample is a Pitched Voice.

3 SAMPLE (Destination Sample Number) .... [Knob 3]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the destination sample voice.

4 TYPE (Destination Type)............................... [Knob 4]

[Settings] PITCHED, KIT: C-2 ~ G8

Specifies the type of the destination sample voice.
Selects the sample key number when the destination sample is a Sample Kit Voice type.

> **NOTE**
> The PITCHED option is not available when a Sample Kit Voice is stored in the destination sample voice number.

5 AUDITION.. [F2]

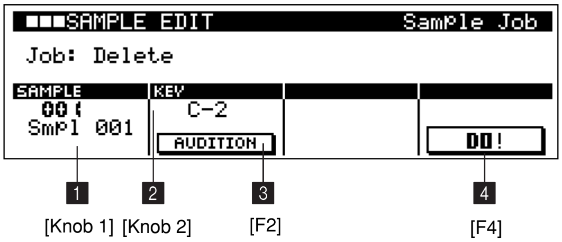
Plays the specified copy source sample.

6 DO! .... [F4]

Executes the job.

02 DELETE

Deletes the specified sample or sample voice.



1 SAMPLE (Sample Number) .... **[Knob 1]**

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be deleted.

2 KEY (Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8, ALL

Specifies the key number of the sample(s) to be deleted.
When ALL is selected the entire sample voice is deleted.

> **NOTE**
> - This parameter is not available when the specified sample is a Pitched Voice.
> - When the last remaining sample in a Sample Kit Voice is deleted, the entire sample voice is deleted.

3 AUDITION .... **[F2]**

Plays the specified sample.

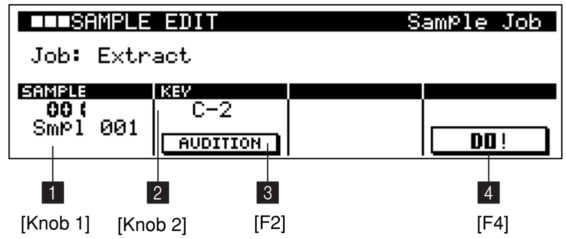
4 DO! .... **[F4]**

Executes the job.

03 EXTRACT

Deletes the portions of the sample prior to the specified start point and after the specified end point.

> **NOTE**
> - Refer to the Trim page for information about the start and end points(Page 241).
> - When the play mode is ATK + LOOP data outside the start (attack) point and end point region will be deleted.



1 SAMPLE (Sample Number) .... **[Knob 1]**

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to which the extract job is to be applied.

2 KEY (Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8, ALL

Specifies the key number of the sample(s) to which the extract job is to be applied.
When ALL is selected the extract job is applied to the entire sample voice.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

3 AUDITION .... **[F2]**

Plays the specified sample.

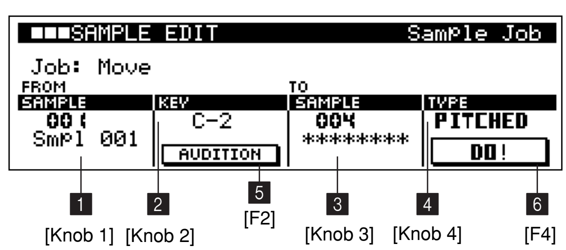
4 DO! .... **[F4]**

Executes the job.

04 MOVE

Moves the specified sample to a different sample or sample voice number.

> **NOTE**
> - This job provides a convenient way to collect samples into a Sample Kit Voice from a number of sample voices.
> - The original sample and sample voice will be deleted.



1 SAMPLE (Source Sample Number) .... **[Knob 1]**

[Settings] 001 ~ 128, C001 ~ C128

Specifies the source sample voice.

2 KEY (Source Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8

Specifies the key number of the source sample.

> **NOTE**
> - This parameter is not available when the specified source sample is a Pitched Voice.
> - When the last remaining sample is moved from a Sample Kit Voice, the entire sample voice is deleted.

3 SAMPLE (Destination Sample Number) .... **[Knob 3]**

[Settings] 001 ~ 128, C001 ~ C128

Specifies the destination sample voice.

4 TYPE (Destination Type) .... **[Knob 4]**

[Settings] PITCHED, KIT: C-2 ~ G8

Specifies the type of the destination sample voice.
Selects the sample key number when the destination sample is a Sample Kit Voice type.

> **NOTE**
> The PITCHED option is not available when a Sample Kit Voice is stored in the destination sample voice number.

5 AUDITION .... **[F2]**

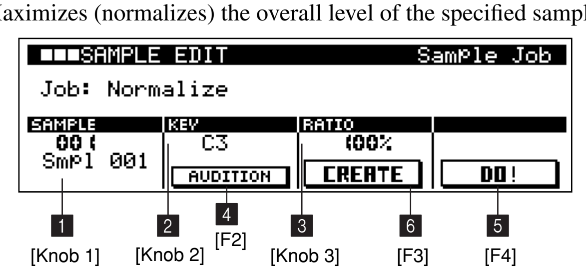
Plays the specified move source sample.

6 DO! .... **[F4]**

Executes the job.

05 NORMALIZE

Maximizes (normalizes) the overall level of the specified sample.



1 SAMPLE (Sample Number) .... **[Knob 1]**

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be normalized.

2 KEY (Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8

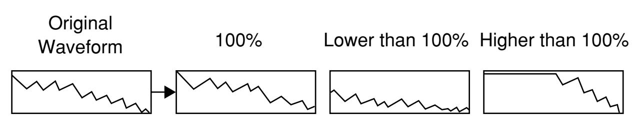
Specifies the key number of the sample to be normalized.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

3 RATIO .... **[Knob 3]**

[Settings] 001 ~ 800%

Specifies the post-normalization sample level.
A setting of 100% maximizes the level so that the highest peak level in the sample is just below clipping (maximum digital signal level).
Settings below 100% reduce the level of the sample accordingly.
Settings higher than 100% will raise the sample level above the maximum, producing deliberate clipping.



4 AUDITION .... **[F2]**

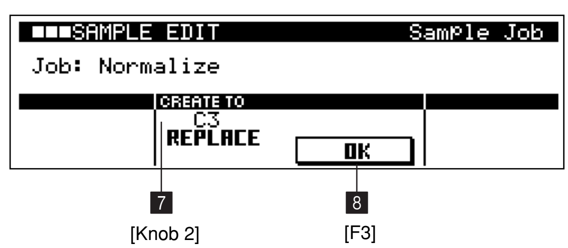
Plays the specified sample.
Plays the normalized sample if pressed after [F4] (DO!) is pressed to normalize the sample.

5 DO! .... **[F4]**

Executes the job.

6 CREATE .... **[F3]**

Saves the processed sample to the target sample number, overwriting the original sample.
If the original sample is a Pitched Sample it will be overwritten at this point. If the original sample is part of a Sample Kit Voice a key-number selection page will appear.



7 CREATE TO (Destination Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8

Specifies the key number to which the processed sample will be saved.

5

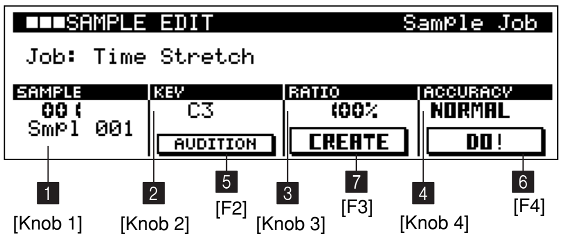
The Sampling Mode

8 OK .... [F3]

Saves the normalized sample to the specified destination key number.

06 TIME STRETCH

Changes the length of the sample without changing the pitch.
The sound quality of some samples may change.



1 SAMPLE (Sample Number) .... [Knob 1]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be time-stretched.

2 KEY (Key Number) .... [Knob 2]

[Settings] C-2 ~ G8

Specifies the key number of the sample to be time-stretched.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

3 RATIO .... [Knob 3]

[Settings] 25 ~ 400%

Specifies the length of post-process sample as a ratio of the length of the original sample (100%).

4 ACCURACY .... [Knob 4]

[Settings] SOUND 4 ~ SOUND 1, NORMAL, RHYTHM 1 ~ RHYTHM 4

SOUND 4 ~ SOUND 1
.... **These settings place emphasis on sound quality, with the "SOUND 4" setting producing the highest sound quality.**

NORMAL .... **Produces an optimum balance of sound quality and rhythmic feel.**

RHYTHM 1 ~ RHYTHM 4
.... **These settings place emphasis on rhythmic feel, with the "RHYTHM 4" setting producing the most accurate rhythmic feel.**

Specifies whether the sound quality or rhythmic feel of the time-stretched sample will be emphasized.

5 AUDITION .... [F2]

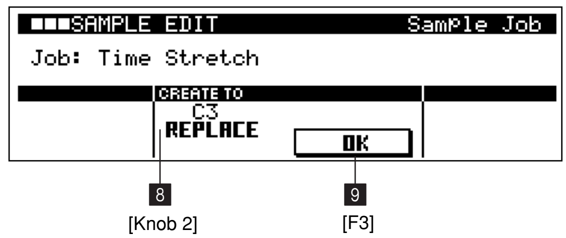
Plays the specified sample.
Plays the time-stretched sample if pressed after [F4] (DO!) is pressed to stretch the sample.

6 DO! .... [F4]

Executes the job.

7 CREATE .... [F3]

Saves the processed sample to the target sample number, overwriting the original sample. If the original sample is a Pitched Sample it will be overwritten at this point.
If the original sample is part of a Sample Kit Voice a key-number selection page will appear.



8 CREATE TO (Destination Key Number) .... [Knob 2]

[Settings] C-2 ~ G8

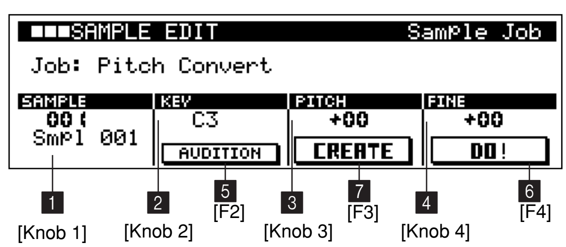
Specifies the key number to which the processed sample will be saved.

9 OK .... [F3]

Saves the time-stretched sample to the specified destination key number.

07 PITCH CONVERT

Changes the pitch of the sample without changing the length.
The sound quality of some samples may change.



1 SAMPLE (Sample Number) .... [Knob 1]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be pitch converted.

2 KEY (Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8

Specifies the key number of the sample to be pitch converted.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

3 PITCH .... **[Knob 3]**

[Settings] -12 ~ 0 ~ +12

Specifies the amount and direction of pitch shift in semitone increments.

4 FINE .... **[Knob 4]**

[Settings] -50 ~ 0 ~ +50

Specifies the amount and direction of fine pitch shift in cent increments (1 cent = 1/100th of a semitone).

5 AUDITION .... **[F2]**

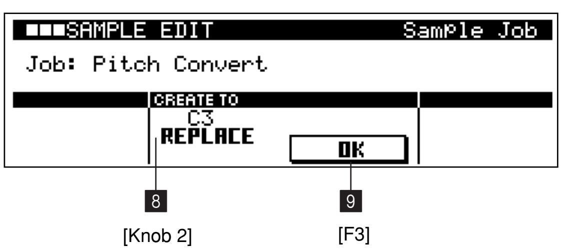
Plays the specified sample.
Plays the pitch-converted sample if pressed after [F4] (DO!) is pressed to pitch convert the sample.

6 DO! .... **[F4]**

Executes the job.

7 CREATE .... **[F3]**

Saves the processed sample to the target sample number, overwriting the original sample.
If the original sample is a Pitched Sample it will be overwritten at this point. If the original sample is part of a Sample Kit Voice a key-number selection page will appear.



8 CREATE TO (Destination Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8

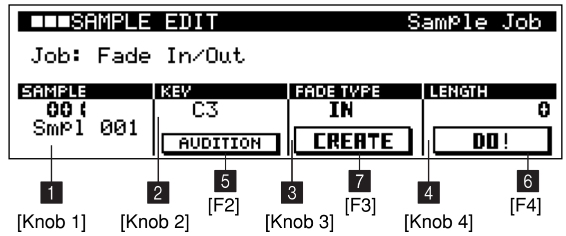
Specifies the key number to which the processed sample will be saved.

9 OK .... **[F3]**

Saves the pitch-converted sample to the specified destination key number.

08 FADE IN/OUT

Varies the level of the sample to produce a fade-in or fade-out.



1 SAMPLE (Sample Number) .... **[Knob 1]**

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to which the fade-in or fade-out is to be applied.

2 KEY (Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8

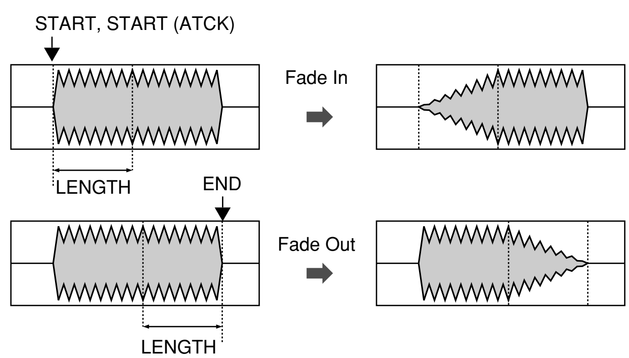
Specifies the key number of the sample to which the fade-in or fade-out is to be applied.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

3 FADE TYPE .... **[Knob 3]**

[Settings] IN, OUT

Selects a fade-in (IN) or fade-out (OUT).



> **NOTE**
> The portions of the sample prior to the specified START or START(ATCK) point and after the specified END point will not be affected.

■4 **LENGTH**...[Knob 4]

[Settings] 0 ~ End Point

Specifies the length of the fade-in or fade-out in 100 steps. When a fade-in is selected this parameter specifies the length of the fade starting at the specified START or START(ATCK) point.
When a fade-out is selected this parameter specifies the length of the fade starting at the beginning of the fade and ending at the specified END point.

■5 **AUDITION**...[F2]

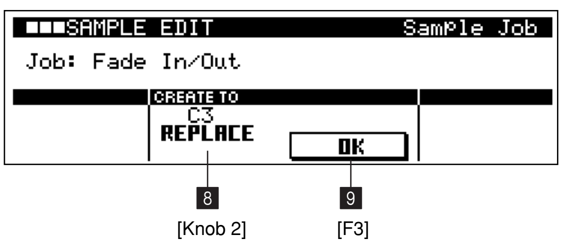
Plays the specified sample.
Plays the processed sample if pressed after [F4] (DO!) is pressed to apply a fade-in or fade-out to the sample.

■6 **DO!**...[F4]

Executes the job.

■7 **CREATE**...[F3]

Saves the processed sample to the target sample number, overwriting the original sample. If the original sample is a Pitched Sample it will be overwritten at this point.
If the original sample is part of a Sample Kit Voice a key-number selection page will appear.



■8 **CREATE TO (Destination Key Number)**.............................[Knob 2]

[Settings] C-2 ~ G8

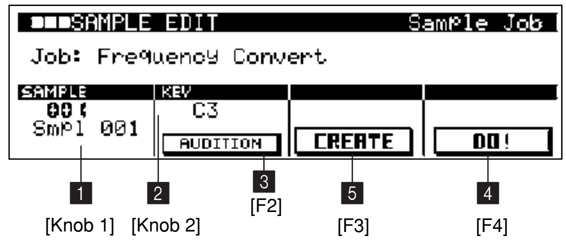
Specifies the key number to which the processed sample will be saved.

■9 **OK**...[F3]

Saves the processed sample to the specified destination key number.

09 FREQUENCY CONVERT

Halves the sampling frequency of the specified sample. This can be used to convert hi-fi samples to a lo-fi sound, and reduce the sample size by half.



■1 **SAMPLE (Sample Number)**.......................... [Knob 1]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be converted.

■2 **KEY (Key Number)**... [Knob 2]

[Settings] C-2 ~ G8

Specifies the key number of the sample to be converted.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

■3 **AUDITION**...[F2]

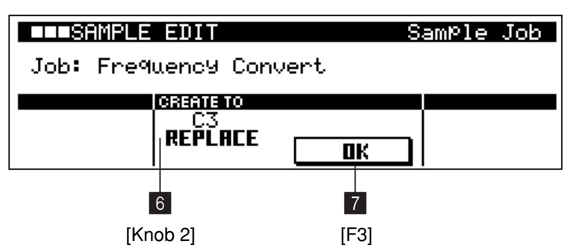
Plays the specified sample.
Plays the processed sample if pressed after [F4] (DO!) is pressed to apply frequency conversion to the sample.

■4 **DO!**...[F4]

Executes the job.

■5 **CREATE**...[F3]

Saves the processed sample to the target sample number, overwriting the original sample. If the original sample is a Pitched Sample it will be overwritten at this point.
If the original sample is part of a Sample Kit Voice a key-number selection page will appear.



6 CREATE TO (Destination Key Number) ....[Knob 2]

[Settings] C-2 ~ G8

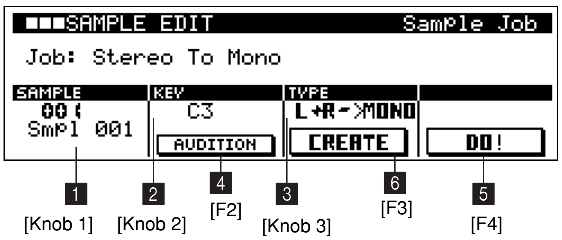
Specifies the key number to which the processed sample will be saved.

7 OK..[F3]

Saves the processed sample to the specified destination key number.

10 STEREO TO MONO

Converts a stereo sample to a mono sample.



1 SAMPLE (Sample Number)...........................[Knob 1]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be converted.

2 KEY (Key Number) ....[Knob 2]

[Settings] C-2 ~ G8

Specifies the key number of the sample to be converted.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

3 TYPE...[Knob 3]

[Settings] L+R>MONO, L>MONO, R>MONO

- **L+R>MONO**...... **The left and right channels of the stereo sample are mixed and converted to a mono sample.**
- **L>MONO**........... **The left channel on the stereo sample is converted to a mono sample.**
- **R>MONO**.......... **The right channel on the stereo sample is converted to a mono sample.**

Specifies which channel, or both channels, of the stereo sample will be converted to a mono sample.

4 AUDITION...[F2]

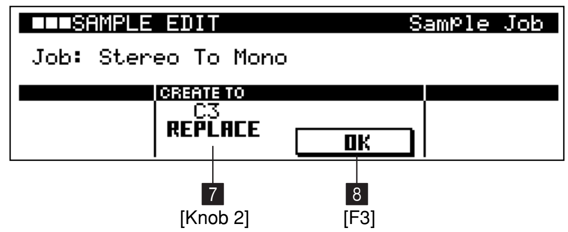
Plays the specified sample.
Plays the processed sample if pressed after [F4] (DO!) is pressed to convert the sample.

5 DO! .... [F4]

Executes the job.

6 CREATE .... [F3]

Saves the processed sample to the target sample number, overwriting the original sample.
If the original sample is a Pitched Sample it will be overwritten at this point. If the original sample is part of a Sample Kit Voice a key-number selection page will appear.



7 CREATE TO (Destination Key Number) .... [Knob 2]

[Settings] C-2 ~ G8

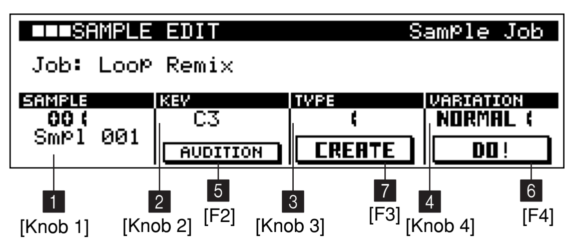
Specifies the key number to which the processed sample will be saved.

8 OK.. [F3]

Saves the processed sample to the specified destination key number.

11 LOOP REMIX

Slices and randomly rearranges the selected sample while also changing the sound of some portions to create totally new variations.
This job is effective when used with accurately-extracted 1 or 2-measure break-beats or phrase samples. Before using the Loop Remix job, set the loop start and end points in the Trim page, and then use the sample Extract job.



1 SAMPLE (Sample Number) .... [Knob 1]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be remixed.

2 KEY (Key Number) ....[Knob 2]

[Settings] C-2 ~ G8

Specifies the key number of the sample to be remixed.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

3 TYPE...[Knob 3]

[Settings] 1 ~ 5

Specifies the degree to which the looped portion of the sample will be sliced.

4 VARIATION...[Knob 4]

[Settings] NORMAL 1, NORMAL 2, REVERSE 1, REVERSE 2

NORMAL1 ....**The original data is sliced and rearranged only.**

NORMAL2 ....**A variation of NORMAL 1.**

REVERSE1 ....**In addition to slicing and rearrangement, some portions of the sample will be played in reverse.**

REVERSE2 ....**A variation of REVERSE 1.**

Determines how the original sample is varied by the loop remix job.

5 AUDITION...[F2]

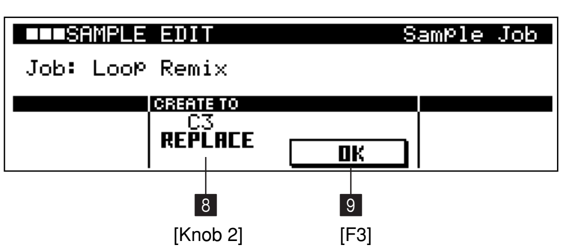
Plays the specified sample.
Plays the processed sample if pressed after [F4] (DO!) is pressed to remix the sample.

6 DO! ....[F4]

Executes the job. Random results will be produced each time the [F4] button is pressed.

7 CREATE..[F3]

Saves the processed sample to the target sample number, overwriting the original sample.
If the original sample is a Pitched Sample it will be overwritten at this point. If the original sample is part of a Sample Kit Voice a key-number selection page will appear.



8 CREATE TO (Destination Key Number) .... [Knob 2]

[Settings] C-2 ~ G8

Specifies the key number to which the processed sample will be saved.

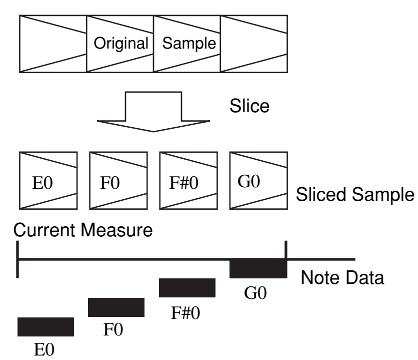
9 OK... [F3]

Saves the processed sample to the specified destination key number.

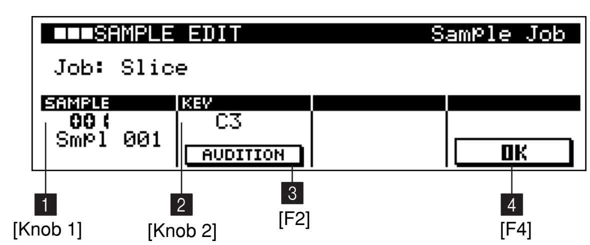
> **NOTE**
> Loop Remix is intended to be used for remixing single samples, and will not work on an entire sliced sample voice.
> Tracks containing sliced sample voices can be remixed using the Real Time Loop Remix function.

12 SLICE

The sample is divided into a number of "slices", the size of which is determined by the specified note length.
At the same time the note data required to reproduce the sliced sample is inserted at the beginning of the currently selected measure in the currently selected track (or from the beginning of the currently selected phrase in the PATTERN mode).



■ Sample Selection Display



1 SAMPLE (Sample Number) .... [Knob 1]

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be sliced.

2 KEY (Key Number) .... **[Knob 2]**

[Settings] C-2 ~ G8

Specifies the key number of the sample to be sliced.

> **NOTE**
> This parameter is not available when the specified sample is a Pitched Voice.

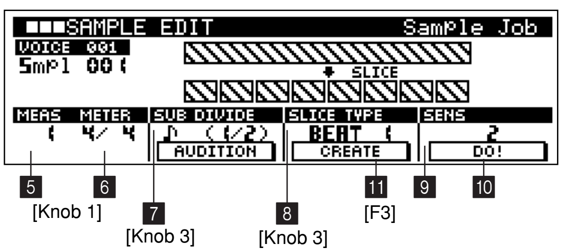
3 AUDITION .... **[F2]**

Plays the specified sample.

4 DO! .... **[F4]**

Selects the sample to be sliced and moves to the next page.

The Slice Parameter Page



5 MEAS (Measure) .... **[Knob 1]**

6 METER .... **[Knob 1]**

7 SUB DIVIDE .... **[Knob 3]**

8 SLICE TYPE .... **[Knob 4]**

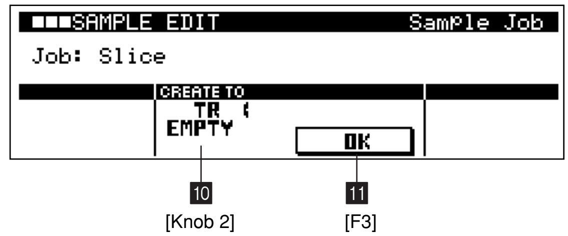
9 SENS (Slice Sensitivity)

10 DO!

For the details of each parameter, refer to the slice page (Page 235) of the sampling mode.

11 CREATE .... **[F3]**

If the original sample voice is a pitched voice, it will be saved at this point by overwriting.
If the original sample voice is a sample kit voice, a page will appear allowing you to select the track.



10 CREATE TO .... **[Knob 2]**

[Settings] TR01 ~ TR16

Specifies the track to which the sliced sample and note data will be saved.

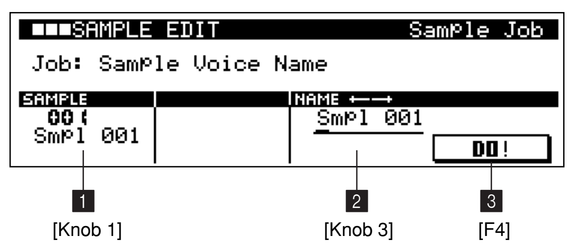
11 OK .... **[F3]**

Saves the sliced sample and note data to the specified destination track.

> **NOTE**
> See page 237 for information on the amount of free memory required for slice operations.

13 SAMPLE VOICE NAME

Allows a name to be entered for the selected sample voice.



1 SAMPLE (Sample Number) .... **[Knob 1]**

[Settings] 001 ~ 128, C001 ~ C128

Specifies the sample voice to be named.

2 NAME ← → .... **[Knob 3]**

Enters a name of up to 8 characters for the sample voice.
Use [Knob 3] to move the cursor, and the keyboard to enter the corresponding character at the selected character location. Refer to "Chapter 1: Basics", page 67, for more information on name entry.

3 DO! .... **[F4]**

Enters the sample voice name.

5

The Sampling Mode

Chapter 6. The Utility Mode

About the Utility Mode 256
1. System.. 257
2. MIDI Setup.. 260
3. MIDI Filter.. 262

About the Utility Mode

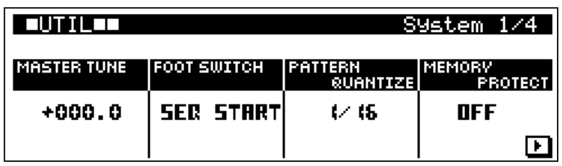
The UTILITY mode provide access to overall RS7000 system settings and MIDI setup parameters. Press the [UTILITY] button to go to the UTILITY mode.

About the Utility Mode

The UTILITY mode includes the following 3 pages.

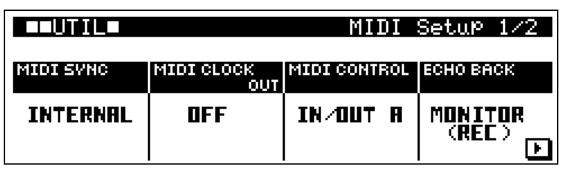
● System... (Page 257)

Master tuning, foot switch settings, and other overall system parameters are available via this page. 3 additional pages can be accessed by using the [F1] and [F4] buttons, for a total of 4 System pages.



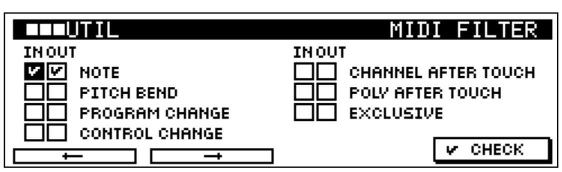
● MIDI Setup... (Page 260)

MIDI synchronization, echo back, and other MIDI-related setup parameters. 1 additional page can be accessed by using the [F1] and [F4] buttons, for a total of 2 MIDI Setup pages.



● MIDI Filter... (Page 262)

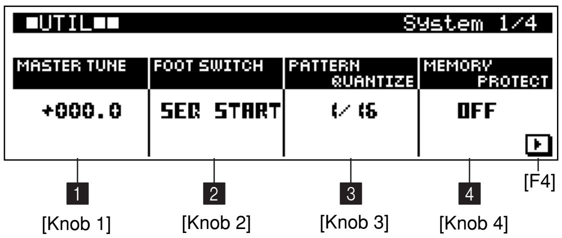
Specifies which MIDI events will be transmitted via the MIDI IN or OUT connectors.



1. System

Master tuning, foot switch settings, and other overall system parameters are available via this page. 3 additional pages can be accessed by using the [F1] and [F4] buttons, for a total of 4 System pages.

Display Parameters



1 MASTER TUNE ....[Knob 1]

[Settings] -102.4 ~ +102.3

Tunes the RS7000 tone generator in 0.1-cent increments. (one “cent” = 1/100th of a semitone).

2 FOOT SWITCH..[Knob 2]

[Settings] SEQ START, SECTION, SUSTAIN, TAP, SAMPLING

SEQ START......Pressing the footswitch alternately starts and stops the RS7000 sequencer.
SECTION ....Pressing the footswitch selects the section in sequence (A, B, C, etc.).
SUSTAIN ....The footswitch functions as a sustain pedal.
TAP ....Automatically sets the BPM according to the speed at which the footswitch tapped.
SAMPLING ....When the trigger mode is MANUAL the footswitch has the same function as the [STANDBY/START/STOP] button.

Selects the function of a footswitch connected to the rear-panel FOOT SW jack.(Page 23)

3 PATTERN QUANTIZE..............................[Knob 3]

[Settings] 1, 1/2, 1/4, 1/8, 1/16

1 ....1 measure
1/2 ....Half note
1/4 ....Quarter note
1/8 ....8th note
1/16 ....16th note

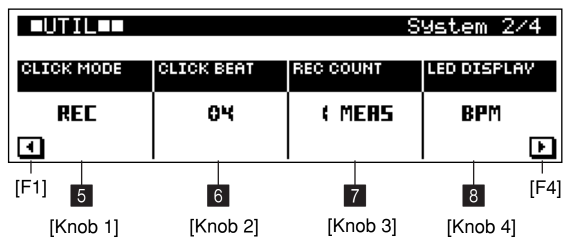
Specifies whether style and section changes will be made on measure boundaries, or 1/2-note ~ 1/16-note boundaries.

4 MEMORY PROTECT.................................[Knob 4]

[Settings] OFF, ON

OFF ....It is possible to record or edit patterns, songs, and sample voices.
ON.....................It is not possible to record or edit patterns, songs, and sample voices.

Determines whether the memory containing patterns, songs, and samples will be protected or not.



5 CLICK MODE.. [Knob 1]

[Settings] OFF, REC, REC/PLAY, ALL

OFF ....The click will not sound.
REC...................The click will sound during real-time recording only.
REC/PLAY ....The click will sound during real-time recording and playback.
ALL ....The click will always sound.

Determines whether and when the metronome click will sound.

6 CLICK BEAT .... [Knob 2]

[Settings] 16, 08, 04, 02, 01

Determines on which beats the metronome click will sound. 16 = 16th notes, 08 = 8th notes, 04 = quarter notes, 02 = half notes, and 01 = whole notes.

7 REC COUNT.. [Knob 3]

[Settings] OFF, 1 ~ 8 MEAS

OFF ....Recording starts as soon as the [PLAY] button is pressed in the Rec Standby mode.
1 ~ 8 MEAS.......Sets the number of count-in measures provided before recording starts.

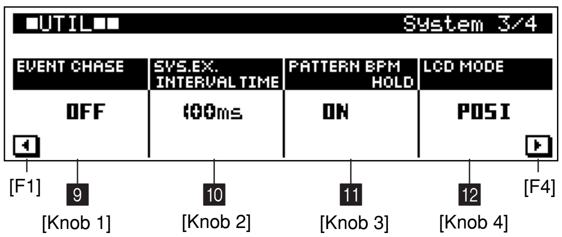
Sets the number of count-in measures provided before recording starts in the real-time recording modes.

8 LED DISPLAY .... [Knob 4]

[Settings] BPM, MEAS

BPM ....The numeric LED displays the BPM (tempo).
MEAS................The numeric LED displays the current measure number during playback and recording.

Specifies the parameters to be normally displayed by the numeric LED.



9 EVENT CHASE .... [Knob 1]

[Settings] OFF, PC, PC+PB+CTRL, ALL

Event chase refers to the ability to rapidly locate certain events so that it is possible to start playback from any point in a pattern or song with proper voice assignments, pitch, etc. This specifies the events to be rapidly "chased" in such a situation.
PC allows rapid chase of program change events, while PC+PB+CTRL chases program change, pitch bend, and control change events. ALL specifies all events except note events.

NOTE

- When a setting other than OFF selected there may be a slight delay when starting playback, and the fast-forward or fast-reverse operations may run a little slower.
- When ALL is selected a large volume of data is transmitted via the MIDI OUT connector which may, in some cases, cause errors with some types of external MIDI equipment.

10 SYS.EX.INTERVAL TIME .... [Knob 2]

[Settings] 000 ~ 900 ms

Allows the MIDI system exclusive (bulk dump) interval to be set between 000 and 900 milliseconds in 100-millisecond increments. If MIDI errors occur when transmitting data to external MIDI devices, try setting a longer SYS.EX INTERVAL TIME.

11 PATTERN BPM HOLD .... [Knob 3]

[Settings] OFF, ON

ON.....................The BPM will not change when a new style is selected.
OFF ....The BPM will change when a new style is selected.

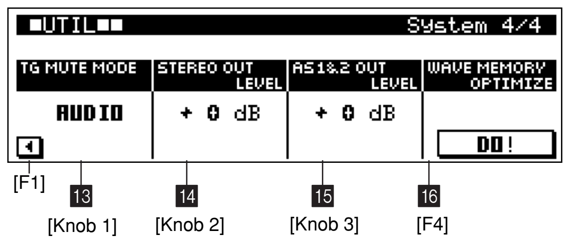
Determines whether the BPM setting will switch to the BPM value stored with each style when a new style is selected during playback.

12 LCD MODE .... [Knob 4]

[Settings] POSI, NEGA

POSI..................The normal display mode.
NEGA................An inverse "negative" display mode.

Selects normal or inverse display on the LCD.



13 TG MUTE MODE .... [Knob 1]

[Settings] AUDIO, MIDI

Determines whether the MIDI sequence data or the tone generator audio output will be muted when a track is muted.
When a track is muted the corresponding MIDI output is also turned off whether the setting is AUDIO or MIDI.

NOTE

If a track is un-muted while a note is playing, if the AUDIO option is selected the note will sound from that point on, but if the MIDI option is selected the note will not sound.

14 STEREO OUT LEVEL .... [Knob 2]

[Settings] +0 dB, +6 dB, +12 dB, +18 dB

Sets the nominal output level delivered via the stereo outputs, headphone outputs, and digital/optical outputs (on the optional I/O expansion board — page 21).
Higher settings may result in distorted sound depending on the voices and number of simultaneous notes used.

15 AS1&2 OUT LEVEL ....[Knob 3]

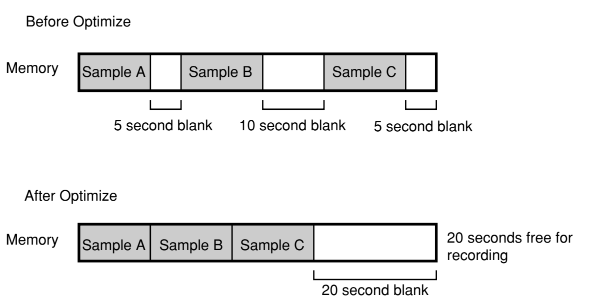
[Settings] +0 dB, +6 dB, +12 dB, +18 dB

Sets the nominal output level delivered via assignable outputs 1 and 2 (on the optional AIEB2 I/O expansion board — page 21).
Higher settings may result in distorted sound depending on the voices and number of simultaneous notes used.

16 WAVE MEMORY OPTIMIZE...................................[F4]

Optimization consolidates areas of used and available memory to create the largest possible area of contiguous available memory. If the optimize operation results in a larger amount of contiguous available memory, the sampling time will be automatically recalculated.

> **NOTE**
> Operations which manipulate recorded samples in memory - adding or deleting samples, for example - can result in non-continuous blocks of data in memory. Sufficient continuous free memory is required for sample recording or loading. If you want to record a 20-second sample, for example, but the available memory is broken down into one 10-second and two 5-second blocks of memory, 20 seconds of uninterrupted sample recording or loading will not be possible. The optimize function can solve this problem by maximizing the amount of continuous free memory available.

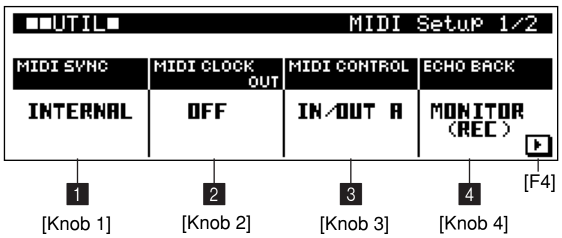


6
The Utility Mode

2. MIDI Setup

MIDI synchronization, echo back, and other MIDI-related setup parameters.
1 additional page can be accessed by using the [F1] and [F4] buttons, for a total of 2 MIDI Setup pages.

Display Parameters



1 MIDI SYNC .... [Knob 1]

[Settings] INTERNAL, MIDI, MTC

INTERNAL .... **Synchronization to internal clock. Use this setting when the RS7000 is to be used alone or as the master clock source for other equipment.**

MIDI .... **The RS7000 is synchronized to a MIDI clock received from an external MIDI master device via the MIDI IN connector.**

MTC .... **The RS7000 is synchronized to an MTC signal received via MIDI IN. MMC signals are transmitted via MIDI OUT. Use this setting when the RS7000 is to be used as a MIDI slave, such as when synchronized to an MTC-capable MTR.**

Determines which RS7000 playback will be synchronized to the internal clock or an external MIDI clock.

> **NOTE**
>
> - MTC (MIDI Time Code) allows simultaneous synchronization of multiple audio devices via standard MIDI cables. It includes data corresponding to hours, minutes, seconds, and frames. The RS7000 does not transmit MTC. A device such as the Yamaha AW4416 is necessary as an MTC master.
> - MMC (MIDI Machine Control) allows remote control of multitrack recorders, MIDI sequencers, etc. A MMC-compatible multitrack recorder, for example, will automatically respond to start, stop, fast forward, and fast reverse operations performed on the controlling sequencer, thus keeping playback of the sequencer and multitrack recorder aligned.

2 MIDI CLOCK OUT .... [Knob 2]

[Settings] OFF, MIDI A, MIDI B, MIDI A+B

OFF .... **MIDI clock is not transmitted.**

MIDI A .... **MIDI clock is transmitted via MIDI OUT A.**

MIDI B .... **MIDI clock is transmitted via MIDI OUT B.**

MIDI A+B ..... **MIDI clock is transmitted via MIDI OUT A and B.**

Specifies whether and from which MIDI output MIDI clock will be transmitted by the RS7000.

3 MIDI CONTROL .... [Knob 3]

[Settings] OFF, IN, MIDI A, MIDI B, MIDI A+B, IN/OUT A, IN/OUT B, IN/OUT A+B

OFF .... **MIDI control is not transmitted.**

IN .... **MIDI control is received but not treansmitted.**

OUT A .... **MIDI control is transmitted via MIDI OUT A.**

OUT B .... **MIDI control is transmitted via MIDI OUT B.**

OUT A+B .... **MIDI control is transmitted via MIDI OUT A and B.**

IN/OUT A .... **MIDI control is received and transmitted via MIDI OUT A.**

IN/OUT B .... **MIDI control is received and transmitted via MIDI OUT B.**

IN/OUT A+B ...... **MIDI control is received and transmitted via MIDI OUT A and B.**

Specifies whether and via which MIDI outputs MIDI control signals — start, continue, stop, and song position pointer — will be received and/or transmitted by the RS7000.
MMC signals are also transmitted when MIDI SYNC is set to MTC.

4 ECHO BACK .... [Knob 4]

[Settings]
OFF, THRU A, THRU B, THRU A+B, REC MONITOR

OFF .... **No echo back.**

THRU A .... **MIDI data received via the MIDI IN connector is re-transmitted via the MIDI OUT A connector.**

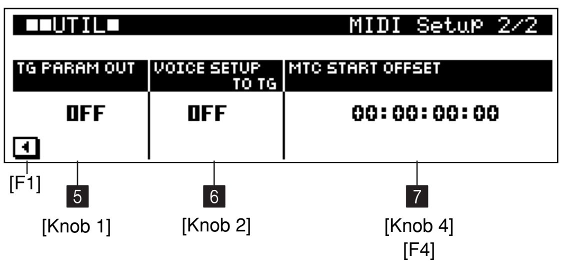
THRU B .... **MIDI data received via the MIDI IN connector is re-transmitted via the MIDI OUT B connector.**

THRU A+B .... **MIDI data received via the MIDI IN connector is re-transmitted via the MIDI OUT A and B connectors.**

REC MONITOR..... **MIDI data received via the MIDI IN connector is re-transmitted via the MIDI channel and MIDI output assigned to the currently selected track. In this case the currently selected track will sound regardless of the original channel.**

Determines whether received MIDI data is re-transmitted and via which output.

> **NOTE**
> The REC MONITOR setting is ideal when using an external MIDI keyboard and tone generator when using the RS7000 to create songs.



5 TG PARAM OUT ....[Knob 1]

[Settings] OFF, OUT A, OUT B

OFF .... **No parameter output.**
OUT A .... **Parameter data is transmitted via MIDI OUT A.**
OUT B .... **Parameter data is transmitted via MIDI OUT B.**

Determines whether MIDI data corresponding to tone generator parameter changes made in one of the sub modes (MIXER, VOICE EDIT, EFFECT) will be transmitted via a MIDI OUT connector.

6 VOICE SETUP TO TG ....[Knob 2]

[Settings] OFF, ON

OFF .... **Voices and effects are not changed when a different style or song is selected.**
ON .... **The voice and effect settings stored with each song or style are recalled when a different song or style is selected.**

Determines whether or not the mixer, voice edit, and effect parameters stored with each style or song will be recalled when a style or song is selected.

> **NOTE**
> - If program change or control change data is included in the performance data, this data will be changed when mixer, voice edit, or effect data is recalled with a style or song.
> - If a voice is set to “Phrase” in the PATTERN mode, the voice setting will be changed regardless of this setting.

7 MTC START OFFSET ....[Knob 4], [F4]

[Settings] Hour: Minute: Second: Frame

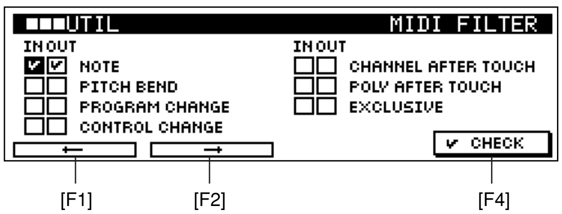
Hour ....00 ~ 23
Minute...............00 ~ 59
Second ....00 ~ 59
Frame ....00 ~ 29

Specifies the time-code time from which sequence playback will start MTC is received. This feature can be used to accurately align playback of the RS7000 with an external MTC-compatible device.
Use [F4] to select Hour, Minute, Second, or Frame, then use [Knob 4] to set as required.

3. MIDI Filter

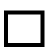
Specifies which MIDI events will be transmitted via the MIDI OUT connector.
These settings apply to pattern and song playback via MIDI OUT. Mixer, voice edit and effect settings, as well as knob and keyboard operations, are transmitted via MIDI OUT regardless of these settings.

Display Parameters



[Settings]
NOTE
PITCH BEND
PROGRAM CHANGE
CONTROL CHANGE
CHANNEL AFTER TOUCH
POLY AFTER TOUCH
EXCLUSIVE

The display shows whether the corresponding MIDI events will be transmitted or not.

 ....**The corresponding MIDI event will not be transmitted.**

.................**The corresponding MIDI event will be transmitted.**

Use [F1] and [F2] to move the cursor, and [F4] to check or uncheck the boxes.

> **NOTE**
> When an IN box is disabled, the corresponding MIDI event will not be sent to the sequencer and will not be recorded. All events are sent to the tone generator section regardless of the MIDI Filter settings.

Chapter 7. Other Information

1. MIDI Basics 264
2. MIDI Events Handled by the RS7000 266

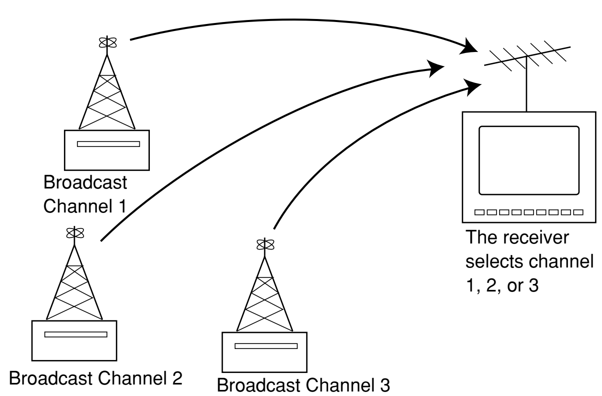
1. MIDI Basics

1. MIDI is ...

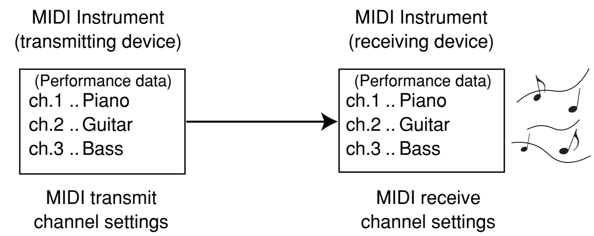
"MIDI" is an acronym for "Musical Instrument Digital Interface", and is a worldwide standard designed to allow performance, voice, and other data to be transferred between musical instruments. Data communication is assured even between musical instruments and equipment from different manufacturers.
MIDI has three main functions:
The first is remote control of musical instruments. For example, performance or voices switching operations, etc., carried out on one instruments can remotely control another instrument connected via MIDI.
Second is automated performance. Performance data recorded by a sequencer or computer can be transmitted via MIDI to multiple instruments for fully automatic playback.
The third is synchronization between instruments. Instruments that use tempo data for playback or recording can be connected via MIDI and accurately synchronized to the same tempo.

2. MIDI Channels

MIDI data is transferred over 16 channels numbered from 1 through 16. It is thus possible to transfer the MIDI performance data for up to 16 different "parts" via a single cable.
MIDI channels can be thought of as being like television channels. Each TV station broadcasts on a separate channel. At the receiving end (i.e. the TV set) the television receiver can be set to receive only one of the many channels that are on the air at the same time.

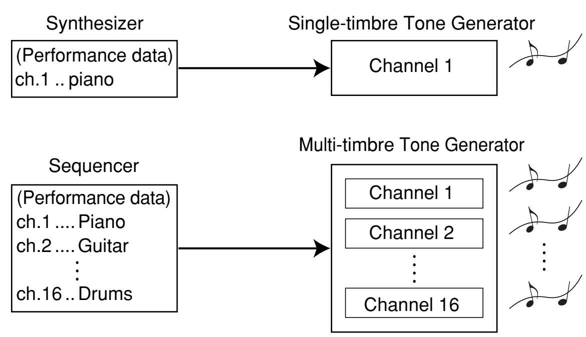


In a similar way, multiple transmitting devices in a MIDI system can be set to transmit on separate channels which reach the receiving device(s) via a MIDI cable. Only a MIDI device set to receive on the same channel as a transmitting device will be controlled by that device.



3. Multi-timbre and Single-timbre Tone Generators

MIDI tone generators can be grouped into two main types according to the number of channels that can simultaneously receive on — Multi-timbre and Single-timbre.
Single-timbre tone generators can receive and play the MIDI performance for one part via a single MIDI channel. This type of tone generator is most commonly used as an expansion tone module for keyboards or other MIDI controllers.
Multi-timbre tone generators are capable of simultaneously receiving and playing the MIDI performance data for several parts over multiple MIDI channels. This type of tone generator can be thought of as several single-timbre tone generators in one integrated unit. In this sense, the number of simultaneous parts that can be played by a multi-timbre tone generator is determined by the number of single-timbre tone generators it contains.
The RS7000 tone generator is a multi-timbre type which is always capable of simultaneously playing up to 16 different parts.

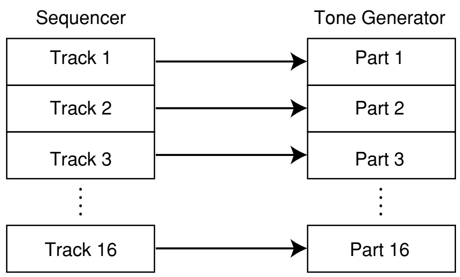


4. Parts and Part Parameters

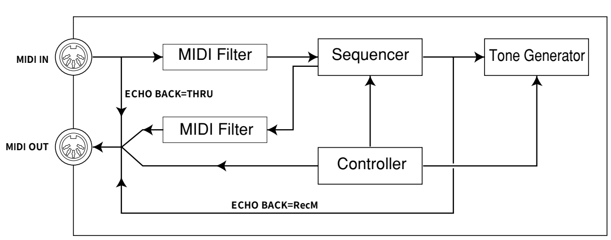
The individual single tone generators that make up a multi tone generator are often referred to as “parts”. Since the RS7000 tone generator can simultaneously play data on up to 16 channels, it has 16 parts. In addition to specifying separate MIDI channels for each part, it is possible to individually set the voice, pan position, volume, and a range of other parameters.
The RS7000 provides voice, pan, volume, effect send level, and other tone generator parameters in the MIXER and VOICE EDIT sub modes. Taking a look at the various parameters available will give you a good idea of the many parameters provided for each part. These type of parameters are commonly known as “part parameters”.

5. Parts and Tracks

In the RS7000, the performance data recorded on each of its 16 tracks plays the corresponding tone generator parts. Although the default track-to-part relationship is that track 1 plays part 1, track 2, plays part 2, etc., these assignments can be changed via the SETUP Out Channel display page (Page 110) so that any track plays any part.



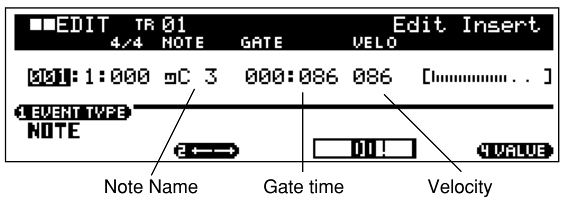
6. MIDI Signal Flow



2. MIDI Events Handled by the RS7000

1. Note ~ 9. Exclusive events are handled in the PHRASE EDIT (Page 154) and SONG EDIT (Page 225) modes. 10. BPM (tempo) change events can be manipulated when editing the BPM track in the SONG EDIT and PATTERN Chain Edit modes.

1. Note

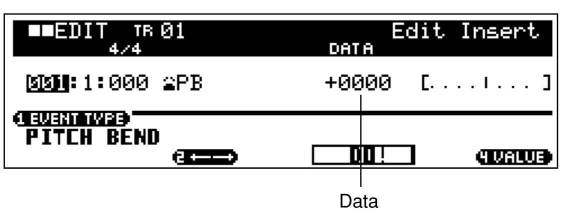


- These are the events that define notes, making up the largest portion of all performance data.
- The note name defines the pitch.
- The gate time specifies the length of the note in beats and clocks.
- Velocity is “how hard” the note is played. The bar graph to the right is a graphic representation of the value.

[Settings]

Note Name	**C-2 ~ G8**
Gate Time	**000:001 ~ 999:479**
Velocity	**001 ~ 127**

2. Pitch Bend

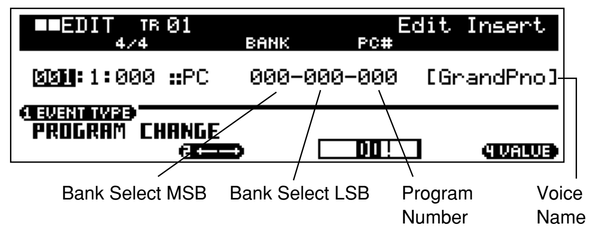


- Defines continuous changes in pitch.
- Pitch bend events are generated by pitch bend wheel operation on an external keyboard.
- The data is a numerical representation of pitch bend wheel position. The bar graph to the right is a graphic representation of the value.

[Settings]

Data	**-8192 ~ +0000 ~ +8191**

3. Program Change (PC)

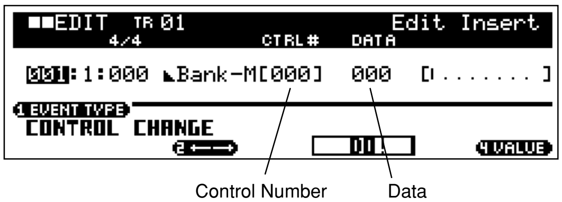


- Program change events select voices.
- The bank select MSB and LSB parameters are actually included in the Control Change category, below, but since in the RS7000 these 3 events are used to select voices they are grouped and described here.
- Bank select MSB and LSB select the voice bank.
- The program number selects an individual voices from the voice category and bank number specified by the MSB and LSB.
- Refer to “Chapter 1: Basics”, page 61, for more information on RS7000 voice banks.

[Settings]

Bank Select MSB	**000 ~ 127**
Bank Select LSB	**000 ~ 127**
Program Number	**000 ~ 127**

4. Control Change (CC)



- Control Change events control voice and effect parameters.
- Control Change events are generated when a controller such as a modulation wheel or foot controller is operated on an external keyboard.
- Control numbers 1 - 119 (except for 32) can be recorded in real time by using the assignable knobs.
- The control number specifies the controller.
- The data specifies the "position" of the controller assigned to the selected control number. The bar graph to the right is a graphic representation of the data value.

[Settings]

Control Number	**000 ~ 127**
Data	**000 ~ 127**

> **NOTE**
> If the controller data is varied suddenly, the tone generator may produce click noise in some cases.

Some of the more important control numbers and controllers are listed below.

● Modulation Wheel (Control Number 001)
- The MIDI data produced when a modulation wheel is operated. No modulation is applied when the value is "0", and "127" produces maximum modulation.

● Portamento Time (Control Number 005)
- This MIDI message controls the portamento effect. No portamento is produced when the value is "0", and "127" produces maximum portamento time.
- Portamento is only produced when Portamento (Control Number 065) is ON.

● Data Entry MSB (Control Number 006)
● Data Entry LSB (Control Number 038)
- These parameters specify the value of RPN MSB, RPN LSB (Page 268), NRPN MSB, and NRPN LSB events (Page 268). The value is represented by two control change data numbers — the MSB and the LSB.

● Volume (Control Number 007)
- Sets the volume for each individual part. No sound is produced when the value is "0", and "127" produces maximum volume.

● Panpot (Control Number 010)
- Sets the pan position for each individual part. The sound is panned fully left when the value is "0" and fully right when the value is "127". The displayed values are –64 ~ +63.

● Expression (Control Number 011)
- Sets the expression for each individual part. No sound is produced when the value is "0", and "127" produces maximum volume. This parameter produces volume variations during playback.

● Sustain (Hold 1) (Control Number 064)
- This MIDI message represents sustain pedal ON/OFF operations. Notes playing when the pedal is pressed will be sustained. When the value is "0" ~ "63" sustain is OFF, and when the data is "64" ~ "127" sustain is ON.

● Portamento (Control Number 065)
- This MIDI message turns portamento ON or OFF. When the value is "0" ~ "63" portamento is OFF, and when the data is "64" ~ "127" portamento is ON.
- The length (degree) of the portamento effect is controlled by Portamento Time (Control Number 005).

● Sostenuto Pedal (Control Number 066)
- This MIDI message represents sostenuto pedal ON/OFF operations. When the value is "0" ~ "63" sostenuto is OFF, and when the data is "64" ~ "127" sostenuto is ON.

● Harmonic Content (Control Change 071)
- Adjusts the resonance of the filter assigned to a voice. The resonance is adjusted by using the data range of 0 ~ 127 as an offset value with a display range of –64 ~ +63 which is added to the voice data.

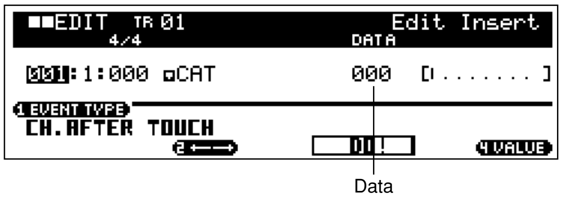
● Release Time (Control Change 072)
- Adjusts the release time of the voice AEG. The release time is adjusted by using the data range of 0 ~ 127 as an offset value with a display range of –64 ~ +63 which is added to the voice data.

● Attack Time (Control Change 073)
- Adjusts the attack time of the voice AEG. The attack time is adjusted by using the data range of 0 ~ 127 as an offset value with a display range of –64 ~ +63 which is added to the voice data.

● Brightness (Control Change 074)
- Adjusts the cutoff frequency of the filter assigned to a voice. The cutoff is adjusted by using the data range of 0 ~ 127 as an offset value with a display range of –64 ~ +63 which is added to the voice data.

- **Effect Send Level 1 (Reverb Effect) (Control Number 091)**
  - Specifies the reverb effect send level.
- **Effect Send Level 3 (Chorus Effect) (Control Number 093)**
  - Specifies the delay/chorus effect send level.
- **Effect Send Level 4 (Variation Effect) (Control Number 094)**
  - Specifies the variation effect send level.
- **Data Increment (Control Number 096)**
- **Data Decrement (Control Number 097)**
  - These MIDI messages increment or decrement by one the value of pitch bend sensitivity, fine tune, or coarse tune settings made using RPN (Page 269).
- **NRPN MSB (Non-Registered Parameter Number MSB) (Control Number 099)**
- **NRPN LSB (Non-Registered Parameter Number LSB) (Control Number 098)**
  - Used primarily as offset values for vibrato, filter, EG, drum setup and other settings.
  - Data Entry (Page 267) is used to set the parameter value after specifying the parameter using the NRPN MSB and LSB.
  - Once an NRPN is specified, the following data entry message received on the same channel is processed as the value of that NRPN. Prevent operational errors by transmitting an RPN Null message (7FH, 7FH) after using these messages to perform a control operation.
  - Refer to "8. NRPN" for information about the parameter. (Page 270)
- **RPN MSB (Registered Parameter Number MSB) (Control Number 101)**
- **RPN LSB (Registered Parameter Number LSB) (Control Number 100)**
  - Used primarily as offset values for pitch bend sensitivity, tuning, and other part settings.
  - Data Entry (Page 267) is used to set the parameter value after specifying the parameter using the RPN MSB and RPN LSB.
  - Once an RPN is specified, the following data entry message received on the same channel is processed as the value of that RPN. Prevent operational errors by transmitting an Null message (7FH, 7FH) after using these messages to perform a control operation.
  - Refer to "7. RPN" for information about the parameter. (Page 269)
- **All Sound Off (Control Number 120)**
  - Turns all currently sounding notes off for all parts.
- **Reset All Controllers (Control Number 121)**
  - Resets all controllers to their initial values. The following parameters are affected: Pitch Bend, Channel Pressure, Polyphonic Key Pressure, Modulation, Expression, Hold 1, Portamento, Sostenuto, Soft Pedal, Portamento Control, RPN*, NRPN* (* The RPN and NRPN are specified as having no number, and no internal data is changed).
  - The following data is not affected: Program Change, Bank Select MSB and LSB, Volume, Pan, Dry Send Level, Effect Send Level 1, 3, and 4, Pitch Sensitivity, Fine Tuning, Coarse Tuning.
- **Omni Mode Off (Control Number 124)**
  - Performs the same operation as when an All Notes Off message is received. The voice receive channel is set to 1.
- **Omni Mode On (Control Number 125)**
  - Performs the same operation as when an All Notes Off message is received. Only the voice receive channel is set to Omni On.
- **Mono (Control Number 126)**
  - Performs the same operation as when an All Sound Off message is received. If the 3rdbyte parameter (the parameter that determines the mono number) is 0 ~ 16 the parts corresponding to those channels are set to mono.
- **Poly (Control Number 127)**
  - Performs the same operation as when an All Sound Off message is received, and sets the parts corresponding to those channels are set to poly.

5. Channel Aftertouch (CAT)

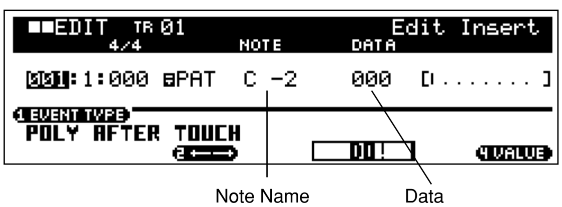


- This event is generated when pressure is applied to a key after the note is played.
- The data represents the amount of pressure applied to the key. The bar graph to the right is a graphic representation of the value.

[Settings]

Data	**000 ~ 127**

6. Polyphonic Aftertouch (PAT)

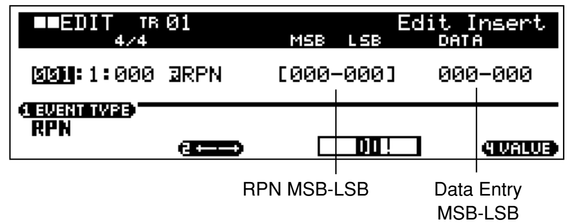


- This event is generated when pressure is applied to a key after the note is played. Unlike the Channel Aftertouch event, however, individual data is provided for each key.
- Note Name specifies the key.
- The data represents the amount of pressure applied to the key. The bar graph to the right is a graphic representation of the value.

[Settings]

Note Name	**C-2 ~ G8**
Data	**000 ~ 127**

7. Registered Parameter Number (RPN)



- Changes parameter values for each tone generator part.
- Normally three types of control change data are sent: RPN MSB (101), RPN LSB (100), and Data Entry MSB (6). In the RS7000, Data Entry LSB (38) is added to this and the resulting group of control change events is handled as one.
- Once an RPN is specified, the following data entry message received on the same channel is processed as the value of that RPN. Prevent operational errors by transmitting an Null message (7FH, 7FH) after using these messages to perform a control operation.
- The RS7000 tone generator section allows control of the 4 following parameters.

[Settings]

RPN MSB	**000 ~ 127**
RPN LSB	**000 ~ 127**
Data Entry MSB	**000 ~ 127**
Data Entry LSB	**000 ~ 127**

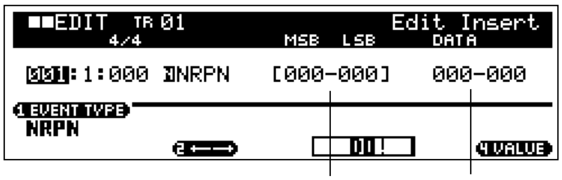
● Parameter List (RPN)

MSB	LSB	Display	Parameter Name	Data Range MSB	Data Range LSB	Initial Value	Function
000	000	PBSens	Pitch Bend Sensitivity	000~024	–	024	Specifies the amount of pitch bend produced in response to pitch bend data in semitone increments.
000	001	FnTune	Fine Tune	-64~+63	–	+00	Adjusts the tuning in cent increments.
000	002	CsTune	Coarse Tune	-24~+24	–	+00	Adjusts the tuning in semitone increments.
127	127	Null	Null	–	–	–	Voids the RPN and NRPN settings so no tone generator settings are changed when the following Data Entry message is received.

7

Other Information

8. Non-Registered Parameter Number (NRPN)

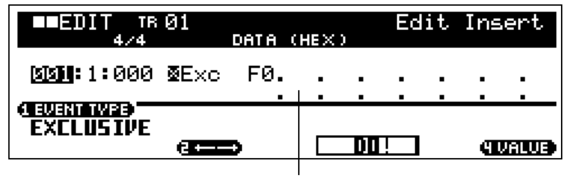


- Changes parameter values for each tone generator part.
- There is no compatibility between different manufacturers. Numerous parameters specific to each tone generator can be controlled to produce tonal changes.
- Normally three types of control change data are sent: NRPN MSB (99), NRPN LSB (98), and Data Entry MSB (6). In the RS7000 this group of control change events is handled as one.
- Once an NRPN is specified, the following data entry message received on the same channel is processed as the value of that NRPN. Prevent operational errors by transmitting an RPN Null message (7FH, 7FH) after using these messages to perform a control operation.
- For filter cutoff frequency, resonance, and other independent control change parameters, it is normal to use the independent control change parameters rather than the NRPN.

[Settings]

NRPN MSB	**000 ~ 127**
NRPN LSB	**000 ~ 127**
Data Entry MSB	**000 ~ 127**

9. Exclusive



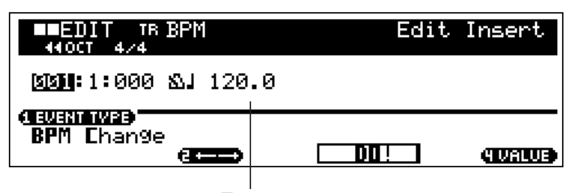
- Changes internal tone generator settings such as voice and effect settings, remote switch control, tone generator mode switching, and others via MIDI.
- The 2nd byte is a manufacturer ID number, and there is no data compatibility between manufacturers. This type of event is used to control RS7000-specific functions.
- The cursor can be used to scroll through the data if the data size is greater than 17 bytes.

[Settings]

Data **00 ~ 7F, F7 (Hexadecimal)**

> **NOTE**
> The black keys on the keyboard (SECTION) A ~ F are used to enter the A ~ F portions of hexadecimal data. When [SHIFT]+[F4] is pressed or [Knob 4] is operated the cursor will flash, and the numeric keypad or the keyboard black keys can be used to enter A ~ F.

10. BPM Change



- Changes the BPM at any point during the sequence.
- The tempo at the beginning of the sequence can be set in the SONG Play or PATTERN Chain Play mode, but SONG EDIT and PATTERN Chain Play settings take priority.
- BPM Change is used to set the actual playback tempo. For example, to change the tempo from 120 to 100, enter BPM = 100 at the point at which the change is to occur.
- Can only be manipulated in the BPM track.

[Settings] Tempo 1.0 ~ 300.0

Appendix

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1. Installing Optional Equipment

The RS7000 provides slots, connectors, and installation space that can accommodate a variety of options for enhancing its performance and functionality, such as SIMM expansion memory and I/O expansion boards.

Removing the Bottom Cover

Procedure

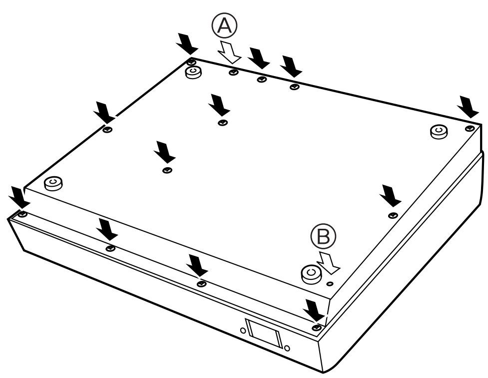
1. Be sure you have the following at hand before starting the installation.
- **Phillips screwdriver:** Magnetic-tipped screwdriver is recommended.
- **Workbench:** Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will prevent scratching.
- **Gloves:** Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

2. Switch off the RS7000 power, and unplug the power cord from the wall outlet.

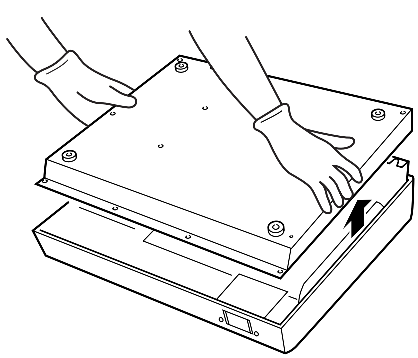
3. Remove the screws holding the bottom cover in place.
- Set the RS7000 upside down on the workbench and use a Phillips screwdriver to unscrew the 12 screws from the bottom (see illustration below).

⚠ CAUTION

Do not remove the screw marked Ⓐ in the illustration below. This screw is not relevant to removing the bottom cover.
Holes Ⓑ in the diagram below have no connection with removing the bottom cover.



4. Holding both sides of the bottom cover with both hands, lift the bottom cover straight up to remove it.



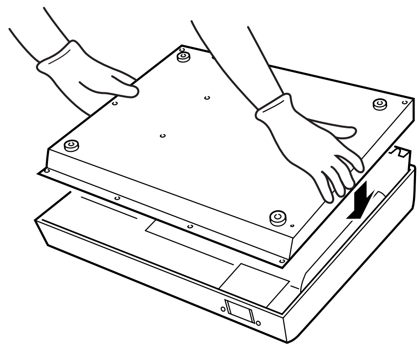
Replacing the Bottom Cover

IMPORTANT

When replacing the bottom cover, be sure that you do not get cables caught or pulled between the cover and main unit. This could cause broken connections or malfunctions.

Procedure

1. Holding both sides of the bottom cover with both hands, lower the cover straight down from above to its original position.

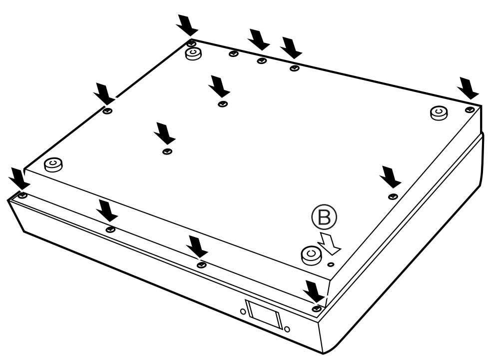


2. Use the original screws to re-attach the bottom cover.

- Replace the twelve screws to fasten the bottom cover.

⚠ CAUTION

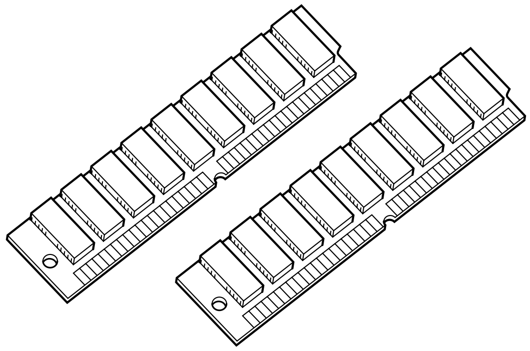
Do not use screws other than those removed in step 3 (Page 272). Other screws can damage the unit. Holes Ⓑ in the diagram below are not screw holes. Be careful not to insert screws into these holes.



3. Carefully turn the unit right side up.

Installing SIMMs

You can increase the RS7000's memory by installing commercially available SIMMs (single in-line memory modules). This section explains how to carry out the installation.



Important information about purchasing SIMMs for the RS7000

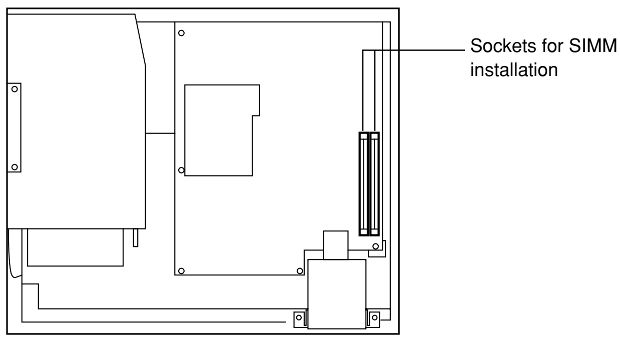
The RS7000 does not necessarily support all commercially available SIMMs. YAMAHA cannot guarantee operation of SIMMs that you purchase. Before purchasing SIMMs, please consult your YAMAHA dealer or an authorized YAMAHA distributor (see list at end of the Owner's Manual) for advice.

IMPORTANT

- Before beginning the installation, please read precautions "Handling and Installation of Options," found at the beginning of this manual.
- You need to use 72-pin SIMMs with access times of 70ns or less. The SIMM module size may be 4, 8, 16, or 32 MB. The RS7000 is designed for use with 32 bit SIMMs, but can also accept installation of 36 bit (parity-type) SIMMs.
- When purchasing SIMMs, make sure that the SIMM design does not utilize more than 18 memory chips per module. (SIMMs comprised of more than 18 chips do not operate correctly on the RS7000.)
- SIMMs must be installed as a pair of the identical capacity. It is not possible to add just a single SIMM.
- The RS7000 ships with 4 MB of memory installed. This means that if, for example, you install a pair of 16 MB SIMMs, the sampling memory will be $4 + (16 \times 2) = 36$ MB. However, the maximum sampling memory is 64 MB. For this reasons the original memory will effectively be disabled if you install a pair of 32 MB SIMMs (one pair: $32 \times 2 = 64$ MB).
- YAMAHA recommends that you purchase SIMMs that conform to the JEDEC* standard.
  Please be aware, however, that conformance to this standard does not guarantee that the SIMM will operate on the RS7000 even if it operates on a personal computer.
  * JEDEC (Joint Electron Device Engineering Council) sets standards for terminal configurations within electronic devices.

Procedure

1. Be sure that you have the following at hand before starting the installation.
   - **SIMMs (one pair: 2 modules)**
   - **Phillips screwdriver:** Magnetic-tipped screwdriver is recommended.
   - **Workbench:** Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
   - **Gloves:** Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.
2. Remove the bottom cover (Page 272).
3. Insert the SIMM module into the socket on the circuit board.
   - First identify the sockets that you will install the SIMM into.

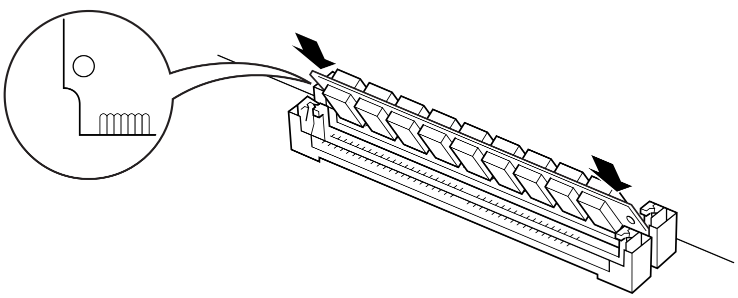


NOTE

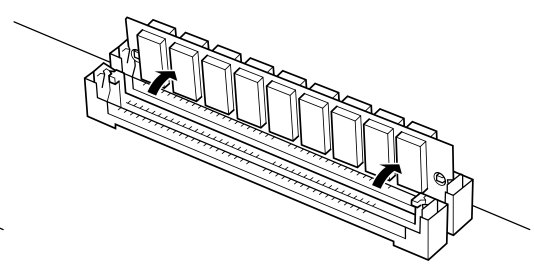
When inserting SIMMs, always begin with the outer socket (i.e., the socket closest to the side of the RS7000 cover). SIMMs will not fit into the socket if you reverse this order.

- Hold the SIMM with its cutout part facing the rear panel, and set the SIMM into the socket at an angle as shown in the figure below (1). Then push the SIMM upright until it clicks into the position shown in figure (2), locking it into place.

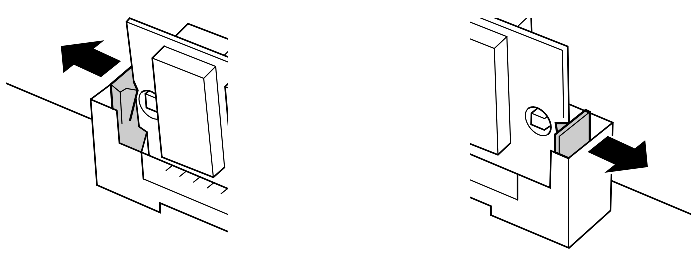
(1)



(2)



- Repeat this step for the other SIMM.
- If you need to remove a SIMM from a socket, hold open the two hooks on the socket (one at each end), push on the SIMM to tilt it downward, and then pull it out.



This completes the installation.
If you wish to install an I/O expansion board, continue with the I/O expansion board installation procedure (Page 276).

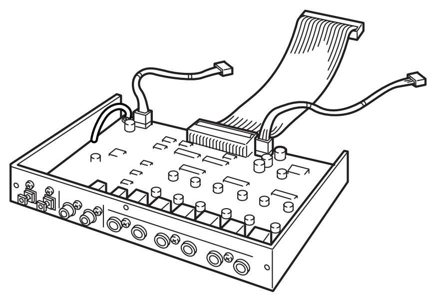
4. Replace the bottom cover (Page 273).

5. Plug in the power cord.

- To verify that the installed SIMMs are detected correctly, hold down [SHIFT] and press [UTILITY] to access the FREE MEMORY display (Page 68).

Installing the AIEB2 I/O Expansion Board

The optional AIEB2 Input/Output expansion board adds digital I/O (both optical and coaxial formats) and six assignable outputs to the RS7000.
For information about the board's connectors and general board setup, refer to information elsewhere in this manual.



IMPORTANT

Before performing the installation, please read precautions "Handling and Installation of Options", found at the beginning of this manual. Please note that the AIEB1 cannot be used in the RS7000.

Procedure

1. Be sure that you have the following at hand before starting the installation.

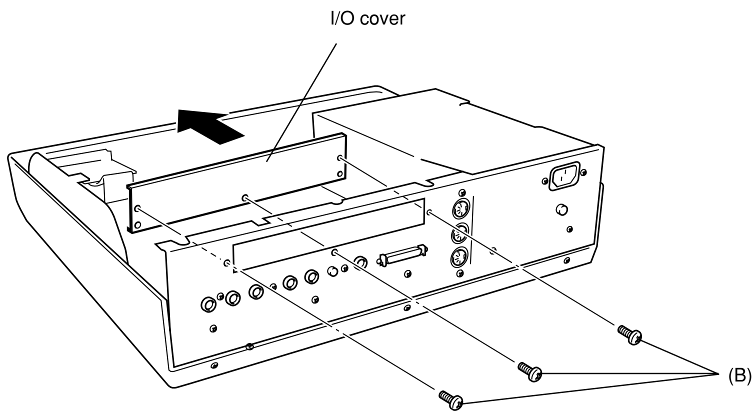
- **AIEB2 I/O expansion board:** Confirm that there are 3 cables extending from the board.
- **Phillips screwdriver:** Magnetic-tipped screwdriver is recommended.
- **Workbench:** Please carry out all work on a stable workbench or table. Spreading a cloth over the work surface will help prevent scratching.
- **Gloves:** Be sure to wear gloves so that your hands are not scratched by the metal cover or other metal parts.

2. Remove the bottom cover (Page 272).

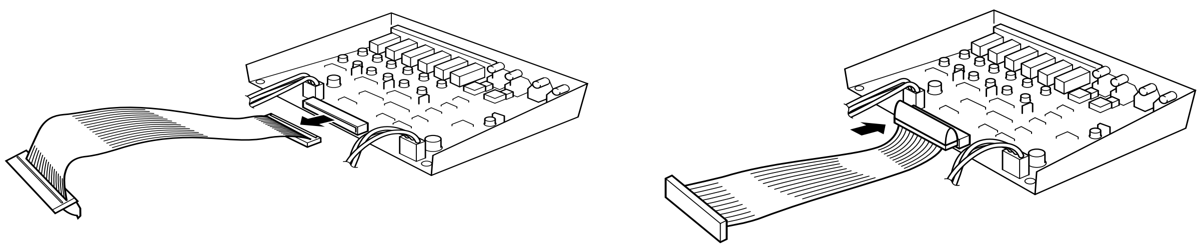
3. Remove the three screws (B) from the rear panel, and remove the I/O cover.

⚠ CAUTION

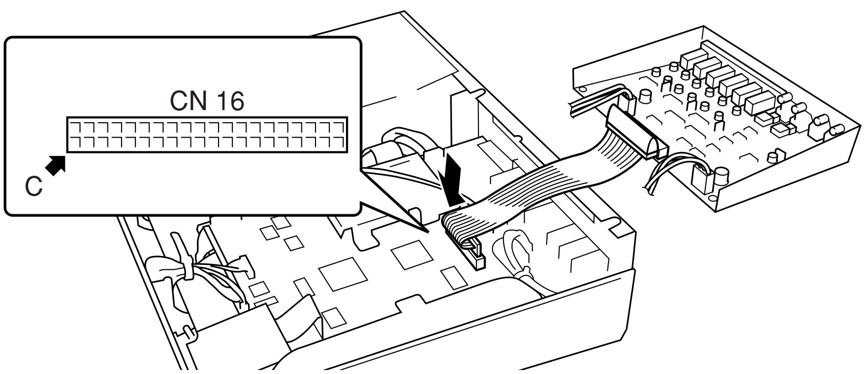
- The I/O cover may fall down when all three screws are removed, so be sure to hold the I/O cover with one hand while removing the screws.
- The I/O cover you removed will not be needed as long as the AIEB2 is installed, but the screws with which it was attached will be used to attach the AIEB2, so be careful not to misplace them.
- These screws (B) are of a different type than the twelve screws that fasten the bottom cover. Be careful not to confuse them with the bottom cover screws. The unit may be damaged if you use the incorrect screws.



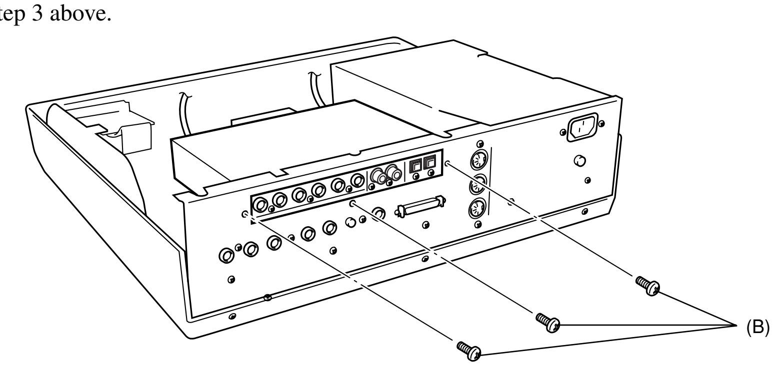
4. Plug in the flat cable backward.
- Disconnect the flat cable.
- Insert the opposite plug into the connector.
  The connector has a cut-out that prevents it from being connected in an incorrect orientation.



5. Connect the flat cable.
- Connect the flat cable from the I/O expansion board (the thin, flat cable) to the corresponding connector on the RS7000's circuit board (marked "C" in the illustration below: CN16).
  The connector is "keyed" so that it will only go in one way.

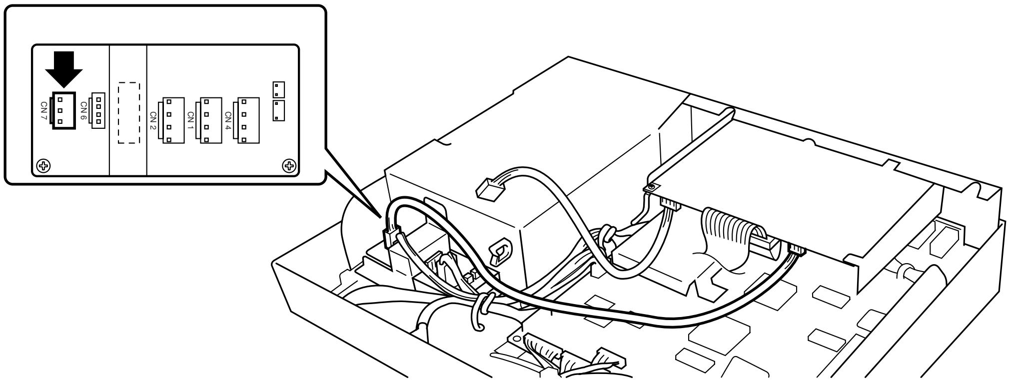


6. Insert the AIEB2 I/O expansion board.
- Support the I/O expansion board as shown in the illustration below, and fasten it to the rear panel by screwing in the three screws (B) that you removed at Step 3 above.



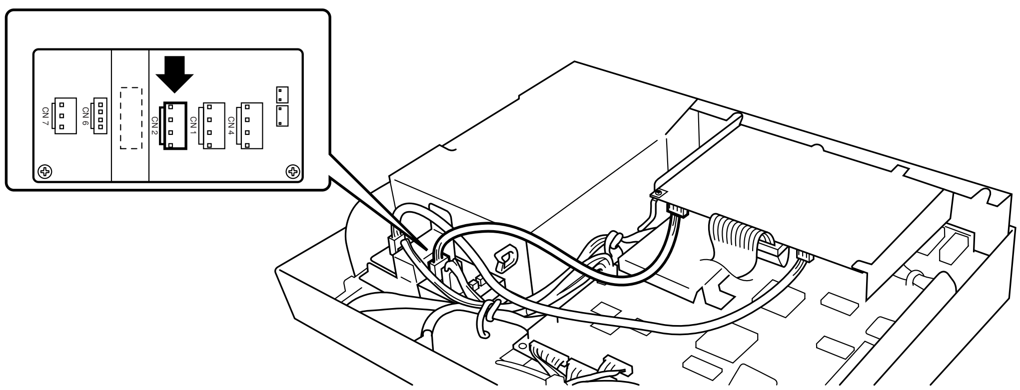
7. Connect the 3-wire red/white cable.

- Of the two red/white cables that extend from the I/O expansion board, first connect the 3-wire cable to the connector shown in the illustration below (CN7: 3-pin).
  Make sure that the direction is correct, and do not try to force the connection.



8. Connect the other red/white cable (4-wire) in the same way.

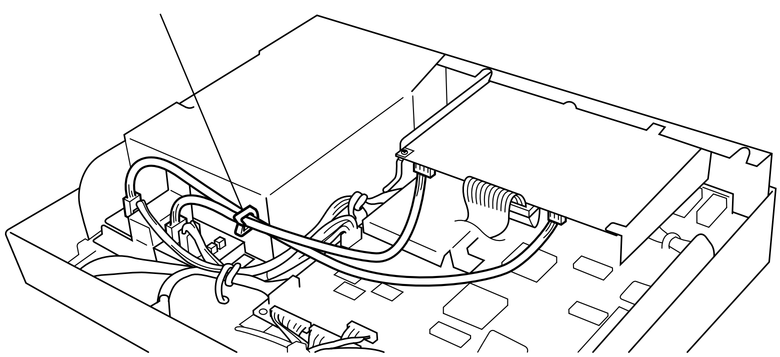
- Connect the cable to the connector shown below (CN2: 4-pin).



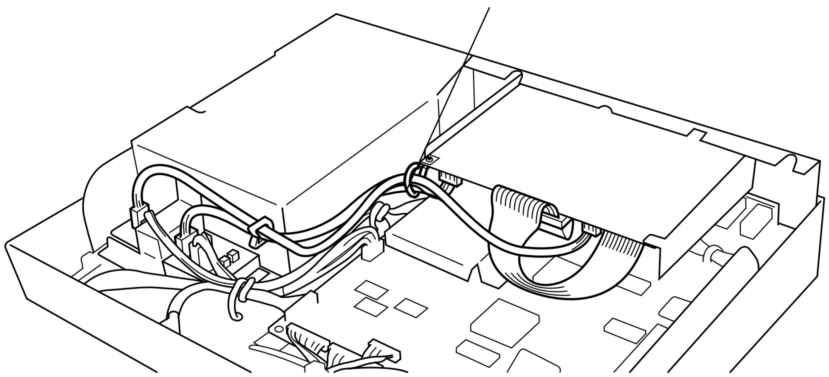
9. Secure the cables to the bundle tie.

- Run the 3-wire and 4-wire cables through the bundle tie (see illustration below), and secure them.

Bundle tie

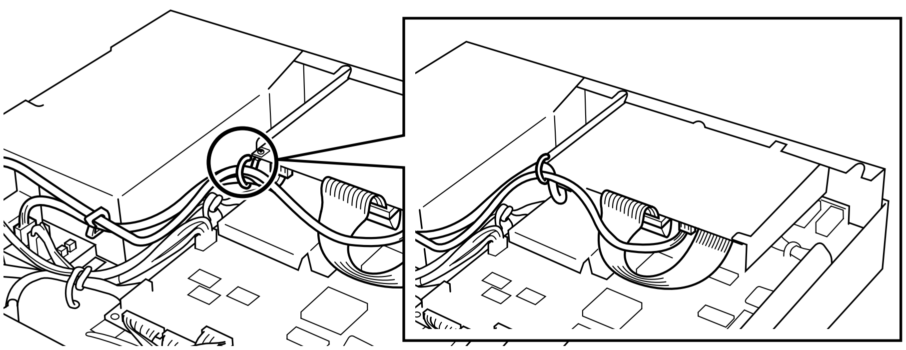


- Use the bundle tie to secure the 3-wire cable, and the 4-wire cable (see illustration below).



⚠ CAUTION

Make sure that the cables are bundled below the circuit board. If any cables are pinched between the cover and I/O expansion circuit board when the bottom cover is replaced, broken connections or malfunctions may occur.



10. Replace the bottom cover (Page 273).

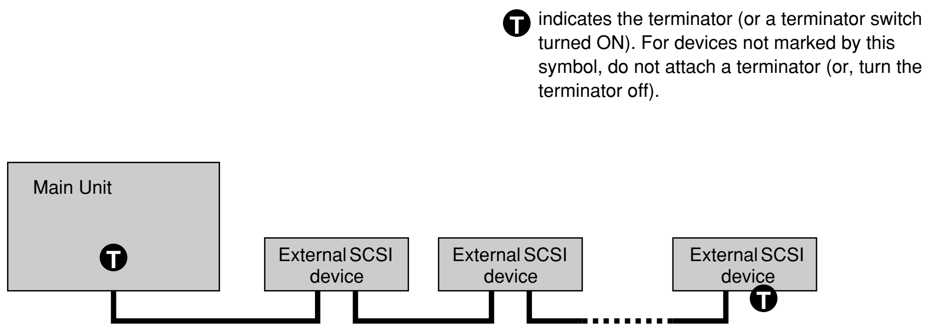
11. Plug in the power cord.

Connecting external SCSI devices

This section explains how to connect external devices such as external hard disk drives, MO drives, or CD-ROM drives.

About SCSI

SCSI (pronounced "scuzzy") stands for Small Computer System Interface, and is a data transmission interface standard used by personal computers and other devices.
Since the RS7000 has a SCSI interface, you can connect and use hard disk drives, MO disk drives, CD-ROM drives, and other SCSI-compatible devices that have a 50-pin SCSI connector. Up to 7 SCSI devices can be connected.
Most external SCSI devices have two SCSI terminals, allowing a number of devices to be "chained" together. Devices chained together in this way can normally be connected in any order.
The last device in the chain must be "terminated", either with a terminator unit plugged into the open SCSI connector, or by turning the device's internal terminator on (if available). The first device in the chain must also be terminated, but in the case of the RS7000 this is accomplished by the terminator inside the RS7000.



IMPORTANT

- Before connecting SCSI devices, be sure to turn off the power of the RS7000 and all connected equipment. If the power is on while connections are being made, the RS7000 or SCSI devices can be damaged.
- Including the RS7000, each SCSI device is distinguished by a number from 0 - 7, called the SCSI ID. If two or more devices have the same SCSI ID number, the SCSI devices will not function correctly. When shipped from the factory, the RS7000 is set to SCSI ID 6. Be aware that the SCSI ID number of a device has no relation to its position in the daisy-chain.
- Don't forget to attach a terminator to the last SCSI device in the daisy-chain.
- If an external SCSI device is not connected, it is not necessary to attach a terminator to the external SCSI connector of the RS7000.
- Use as short a SCSI cable as possible. Using long cables can cause unreliable operation. (In general, the total cable length should be less than 6 meters (approximately 18 feet).)
- Use good-quality SCSI cables. Poor-quality cables can cause unreliable operation.
- Some SCSI devices have only one SCSI connector. If you are using such a device, connect it at the end of the daisy-chain.

Procedure

1. Use SCSI cables to daisy-chain the external SCSI devices.
   - There are several types of SCSI connector. Use SCSI cables appropriate for your devices.
2. Connect the power cable of the external SCSI device to an AC outlet.
3. Set the SCSI ID (0 - 7) of the external SCSI device.
   - Select a SCSI ID that will not conflict with the other SCSI devices (including the RS7000). When the RS7000 is shipped from the factory, the SCSI ID is set to 6.
4. Attach the terminator to the SCSI connector (the vacant one of the two SCSI connectors) of the last device in the daisy-chain. Alternatively, turn on the terminator switch of that device.
5. Make sure that the terminator switch is turned OFF for all other devices in the daisy-chain (i.e., all devices other than the last device).
6. Turn on the power of the external SCSI device(s), and after waiting several seconds, turn on the power of the RS7000.

> **NOTE**
> Many articles and books concerning SCSI are available. However most of them discuss only the concepts or the specification, and do not tell you what to do if the system does not work when connected as described. The following paragraphs will provide more information about SCSI that will help you correct problems which may occur when SCSI devices are connected. Please read this material if you experience problems. Please be aware that when connecting SCSI devices, problems with termination and cabling can cause valuable data to be damaged. We regret that Yamaha can take no responsibility regarding any data which is lost.

■ Realities of terminator installation

Although we have said that a terminator is required at the beginning and end of the SCSI bus, this is a general principle and not a requirement. For example if the bus is extremely short (45 cm or less), there are cases in which it is best for there to be a terminator only on one or the other end. However if other drives are connected in addition to these drives, the situation will again be different.
Also, if the SCSI devices are separated by more than 3 meters, it is said that using a terminator at the 3 meter point is preferable. In this case, three or more terminators will exist within the SCSI bus.
In this way, the theory and practice of SCSI connections can differ widely. Simply changing a drive in a system that had been working correctly can cause operation to become unreliable, or adding a drive to an unreliable system can cause it to start working correctly. In practice, a certain amount of trial and error is necessary.

■ Reasons for SCSI errors

A SCSI bus operates stably only if all the connected SCSI devices are operating correctly. If any of the devices are producing noise, the other devices will also produce errors, and in the worst case, the boot block of a drive can be destroyed. (All data in that drive will be lost.)
Also, there are cases in which a system on which data appears to have saved may not have actually saved the data, resulting in data loss.
The following paragraphs will discuss the reasons for such errors, and will provide a sequence for your troubleshooting.

• Check the SCSI ID

Make sure that there is no conflict between the SCSI ID of each SCSI device including the RS7000. When shipped from the factory, the RS7000's SCSI ID is set to 6. Be sure to turn off the power before changing the SCSI ID setting of the external SCSI device.

• Check the terminator

As discussed above, check the location where the terminator is attached.

• Check the SCSI cables

Low-quality SCSI cables will almost always create problems. Always use double-shielded cables. It is also important that the shield be grounded inside the connector. Long SCSI cables frequently cause problems, so use as short a SCSI cable as possible. Bending or twisting a SCSI cable in a confined space can cause conductors to break or pins to be broken, so be careful to avoid this.

Operation is not guaranteed if the SCSI connector of the RS7000 is connected via a converter to any external device other than a 50-pin SCSI device (such as a Wide SCSI, ATA (IDE), USB, or IEEE 1394 device).

2. Specifications

Sequencer Section	Maximum Note Capacity	Approx. 259,000 notes	
	Note Resolution	Quarter note/480	
	Maximum Polyphony	124 notes	
	BPM (Tempo)	1.0 - 300.0	
	Record Modes	Real time replace	
		Real time overdub (Pattern and Song modes only)	
		Real time punch (Song mode only)	
		Step (Pattern and Song modes only)	
		Grid Step (Pattern and Song Modes only)	
	Tracks	Pattern Mode	: 16 phrase tracks
		Pattern Chain Mode	: Pattern track
			: BPM track
			: Scene/Mute track
		Song Mode	: 16 sequence tracks
			: BPM track
			: Scene/Mute track
	Patterns	Patterns	: 1024 (64 styles × 16 sections)
		Measures	: 256 maximum
	Phrases	Preset Phrases	: 5980
		User Phrases	: 256 per style
	Pattern Chains	20 chains	
	Songs	20 songs	
	Edit	Phrase edit	
		Pattern Chain edit	
		Song edit	
	Jobs	Pattern Jobs	: 37
		Pattern Chain Jobs	: 9
		Song Jobs	: 30
	Grid Groove	Note Offset, Clock Shift, Gate Time Offset, Velocity Offset	
	Play Effects	Harmonize (Unison, Octaver, Harmonize 1 & 2) Note (Note Offset, Gate Time, Velocity Offset) Timing (Beat Stretch, Clock Shift, Swing)	
	MIDI Delay	MIDI Delay Edit, Feedback Edit	
	Arpeggio	Type (Up, Down, Alternate 1 & 2, Random), Sort, Hold, Octave Range	
	Real Time Loop Remix		
	Sequence Format	RS7000 original sequence format SMF format 0, 1 (Format 1 load only) RM1x format (PATT, SONG) (load only)	

Tone generator block	Type	AWM2 tone generator	
	Maximum polyphony	62 notes	
	Multi-timbral capability	16 timbres (with DVA)	
	Preset voices	Normal voices 1054 (except GM voices)	
		Drum voices 63 kits (except GM kits)	
	Effects	4 systems	
		Reverb	: 12 types
		Delay Chorus	: 25 types
		Variation	: 100 types
		Master	: 8 types
	Equalizer	Master equalizer	4 Band parametric equalizer
		Track equalizer	5 types
Tone Generator Section	Sample Voice Types	Pitched Voice, Sample Kit Voice	
	Maximum Samples	256	
	Sampling Source	Analog inputs L/R	
		Stereo outputs L/R	
		Digital I/O (When optional AIEB2 I/O Expansion Board installed)	
		Optical I/O (When optional AIEB2 I/O Expansion Board installed)	
	A/D Conversion	20-bit, 64 × oversampling	
	D/A Conversion	24-bit, 128 × oversampling	
	Sampling Types	Slice + Sequence, Kit, Kit + Note, Pitch	
	Sample Data Bits	16	
	Sampling Frequency	: 44.1 kHz (MONO/STEREO), 22.05 kHz, 11.025 kHz, 5.5125 kHz (LO-FI mode, MONO/STEREO)	
		Digital Inputs (When optional AIEB2 I/O Expansion Board installed)	: 48 kHz, 44.1 kHz, 32 kHz (STEREO only)
	Internal Sample Memory	Standard	: 4 megabytes (onboard)
		Maximum	: 64 megabytes (32 megabyte SIMMs × 2)
			* 4 onboard megabytes unavailable after maximum expansion.
	Sampling Time	Max. Sample Length	: 32 megabytes mono
			: 64 megabytes stereo
		Max. Sample Time (Mono or Stereo)	: Approx. 6 min. 20 sec. (44.1 kHz)
	Sample Format	Original format	
		AIFF (load only), WAV (save and load)	
		A3000/4000/5000, SU700, (load only)	
	Sampling Jobs	13	

Appendix

Controls	Power Switch (ON/OFF)	
	Master Volume Control (MASTER VOLUME)	
	Recording Level Control (REC VOLUME)	
	Master Effect Selector Knob	
	Master Effect Parameter Knobs (× 4)	
	Multi-function knobs (× 4)	
	Assignable Knobs (× 18)	
	Contrast Control	
	Mode Buttons	[PATTERN], [PATT CHAIN], [SONG], [UTILITY]
	Sub Mode Buttons	[GROOVE], [PLAY FX], [MIDI DELAY], [MIXER], [VOICE EDIT], [EFFECT], [SETUP], [MASTER], [SAVE], [LOAD], [JOB], [EDIT]
	Function Buttons	[F1] - [F4]
	Master Effect Button	[EFFECT ON/OFF]
	Sampling Buttons	[REALTIME LOOP REMIX], [SAMPLE EDIT], [STANDBY/START/STOP]
	Play Effect Button	[SELECT]
	Voice Edit Buttons	[WAVE] (LFO), [AMP/FILTER/PITCH], [PORTAMENTO TYPE], [TYPE] (FILTER)
	Exit Button	[EXIT]
	Sequencer Buttons	[REC], [⏮], [STOP], [PLAY], [◀◀], [▶▶]
	Shift Button	[SHIFT]
	Arpeggio Button	[ARPEGGIO ON]
	Mute/Scene Buttons	[STORE], [MUTE/SCENE], [MEMORY 1] – [MEMORY 5]
	Octave Buttons	[OCT DOWN], [OCT UP]
	Keyboard Mode Buttons	[KEYBOARD], [TRANSPOSE], [MUTE], [TRACK SELECT]
	Keyboard Pads (× 26)	
	Tap Button	[TAP]
	Velocity Pads (× 2)	[PAD 1], [PAD 2]
Display (LCD)		64 × 240 dot graphic LCD with backlighting and contrast control
LEDs		MODE (× 4) (green)
		EFFECT ON/OFF (green)
		SAMPLING (REALTIME LOOP REMIX (green), SAMPLE EDIT (green), STANDBY/START/STOP (red))
		SEQUENCE PLAY FX SELECT (× 2) (yellow)
		VOICE EDIT (× 18) (yellow)
		REC (red)
		PLAY (green)
		SECTION (× 10) (red)
		MUTE/SCENE (× 2) (red)
		TRACK (× 16) (red)
		KEYBOARD mode (KEYBOARD (green), MUTE (red))
		ARPEGGIO ON (green)
		Function Buttons (× 4) (red)
		MIDI IN (red), MIDI OUT A (green), MIDI OUT B (green)
		7-segment LED (4-digit)

Connectors	PHONES (Standard stereo phone jack) OUTPUT (Standard phone jack × 2) (L/MONO, R) INPUT (Standard phone jack × 2) (L, R) FOOT SWITCH MIDI IN, MIDI OUT (× 2, A & B) CARD SLOT (3.3 V SmartMedia) SCSI (50-pin half-pitch) AC INLET (AC power)
Dimensions (W × D × H)	440 mm × 363 mm × 134 mm
Weight	7 kg
Supplied Accessories	Power cord CD-ROM (× 1) SmartMedia (8 MB × 1) : Sound & Sequence data Owner's Manual Set
Options	I/O Expansion Board : AIEB2 Expansion Memory (use a pair of Identical SIMMS conforming to the specifications below): Type : 72-pin SIMM (Fast page or EDO, JEDEC standard) Access Time : 70 ns or faster Parity : Parity or non-parity Capacity : 4/8/16/32 megabytes

* Specifications and descriptions in this owner's manual are for information purposes only. YAMAHA Corp. reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment or options may not be the same in every locale, please check with your YAMAHA dealer.

3. Troubleshooting

No sound? Wrong sound? When a problem like this occurs please check the following points before assuming that the product is faulty. In many cases you'll find the solution to your problem here. If the problem persists, then contact your YAMAHA dealer.

Problem	Possible causes	Page
No Sound	**Overall System Causes**	
	• Are the power supplies to the unit and related external equipment turned on?	
	• Is the unit properly connected to related external equipment via MIDI or audio cables?	(Page 22)
	• Is the MASTER VOLUME control turned up to an appropriate level?	(Page 13)
	• Is the MIDI filter set so that note-on messages are blocked?	(Page 262)
	• Is the output select setting appropriate?	(Page 94)
	Voice & Effect Related Causes	
	• Are the effect and filter settings appropriate? (Inappropriate filter cutoff frequency settings can result in no sound)	(Page 104, 198)
	Pattern & Song Related Causes	
	• Are the individual volume levels for each track set at appropriate levels?	(Page 93, 194)
	• Are the tracks muted?	(Page 74, 183)
	• Is the Out Channel set to OFF?	(Page 110, 200)
	• Are the playback data volume and expression settings appropriate?	(Page 154, 225, 267)
	• Is the groove or playback effect velocity offset set too low?	(Page 86, 88, 191, 192)
	Sample Related Causes	
	• Is the sample volume set to an appropriate level?	(Page 243)
	• Is the Original Key parameter set properly?	(Page 243)
Distorted Sound	**Overall System Causes**	
	• Is the MASTER VOLUME set so high that clipping is occurring?	(Page 13)
	• Is the Out Level set too high?	(Page 258)
	Voice & Effect Related Causes	
	• Are any effect settings causing the distortion? (Excessively high filter resonance settings can cause distortion)	(Page 104, 198)
	• Is the Unison effect turned on? (The Unison effect can sometimes sound like distortion)	(Page 88, 192)
Sound Level Too Low	• Are the volume or expression settings too low?	(Page 154, 225, 267)
	• Is the groove or playback effect velocity offset set too low?	(Page 86, 88, 191, 192)
	• Is the Out Level set too low?	(Page 258)
Pitch or Intervals are Wrong	**Overall System Causes**	
	• Is the Master Tune parameter set at a value other than "0"?	(Page 257)
	• Has the pitch bend wheel on an external device been moved?	
	Voice & Multi Related Causes	
	• Is Transpose set at a value other than "0"?	(Page 73, 160, 183)
	• Is the groove note offset set to change the pitch?	(Page 86, 191)
	• Is the Pitch Bend knob in the center position?	(Page 15)
	Sample Related Causes	
	• Is the Original Key parameter set properly?	(Page 243)

Sound Is Cut Off	• Are you exceeding the maximum polyphony of the instrument?	(Page 62)
Playback Does Not Begin When the [PLAY] Button Is Pressed	• Does the selected pattern, phrase, pattern chain, or song contain data? • Is the MIDI SYNC parameter set to INTERNAL?	(Page 77, 161, 184) (Page 260)
Rhythm and Note Timing Is Different From When Recorded	• Are the groove or play effect parameters set to change the timing?	(Page 85, 87, 191, 192)
Voice & Effect Settings Change When Playback Is Started	• Is data which resets the tone generator recorded at the beginning of the sequence?	(Page 154, 225)
Can't Record a Phrase or Song	• Is a preset phrase selected? • Is memory protection turned on?	(Page 75) (Page 257)
Can't Record Samples	• Have you exceeded the maximum allowable number of sample voices? • Is there enough free sample memory? • Is the source input set properly? • Is the A/D level set properly?	(Page 61, 229) (Page 68) (Page 231) (Page 108, 200)
Memory is Full Even Though There Are Available Patterns or Songs	• The total RS7000 memory capacity determines the number of patterns, phrases, and songs that can be recorded. For example, if the memory contains phrases or songs that use up a large amount of memory, the memory may become full even though the available pattern or song numbers are not all used.	(Page 68)
MIDI Bulk Data Transmission/Reception Won't Work Properly	• Was the dump interval time set to too short a value when the data was saved?	(Page 258)
Can't Save Data	• Is the memory card or disk being used write protected? • Is the memory card or disk being used properly formatted?	(Page 115) (Page 116)

Appendix

4. Error Message List

● Operational Errors

No Data	**When a job is executed, the selected track or range contains no data. Select an appropriate track or range.**
Illegal Input	**An unacceptable input or value has been specified. Check the input method or value.**
Illegal Track Number	**An unacceptable track number has been specified. Select the track again.**
Illegal Phrase Number	**An unacceptable phrase number has been specified. Select the phrase again.**
Illegal Measure	**An unacceptable measure number has been specified. Select the measure again.**
Illegal Check Box	**No check boxes have been checked in a track job which requires a check box selection. Check the appropriate check box.**
Meter Mismatch	**The meter values of the original and edited data are different.**
No F7 (End Of Exc.)	**Exclusive data has been entered or changed without the necessary "End Of Exclusive" byte (F7). Make sure F7 is included.**
Preset Phrase	**You have attempted to edit or record a preset phrase. Preset phrases must be copied to a user phrase before they can be edited.**
Pattern Length Mismatch	**A job will result in the length of a phrase being greater than 256 measures.**
Phrase Length Mismatch	**An edit operation will result in a phrase which is longer than 256 measures.**
Phrase Number Overflow	**The maximum number of phrases (256) has been exceeded when recording, executing a job, or editing.**
Too Long Sample	**A sample time stretch or other job has resulted in a sample being too long.**
Too Short Sample	**The sample length is too short and the Frequency Convert job cannot be executed.**
Too Low Freq	**The sampling frequency is too low and the Frequency Convert job cannot be executed.**
Digital In Unlocked	**The DIGITAL/OPTICAL input is unlocked. Check the connections and the output from the source device.**

● System Errors

Backup Battery Low	**The internal backup battery is running low. Have the battery replaced by your YAMAHA dealer or an authorized YAMAHA service center.**
Sequence Memory Full	**The internal memory is full and recording, editing, job execution, MIDI reception/transmission, or loading from card or disk cannot continue. Try again after erasing unwanted song, pattern, or user phrase data.**
Sample Number Overflow	**A sampling operation, job, or load operation has exceeded the maximum allowable number of samples. Try again after erasing unnecessary samples.**
Too Many Local Voices	**The maximum number of samples allowable for a pattern or song (128) has been exceeded.**
Too Many Common Voices	**The maximum allowable number of common sample voices (128) has been exceeded.**
Too Many Sample Voices	**The maximum overall number of sample voices (256) has been exceeded.**
Wave Memory Full	**The wave memory is full and further sampling operations, jobs, or load operations cannot be executed. In some cases, the amount of remaining memory will be increased when you execute the Wave Memory Optimize operation.**
Factory Set	**This message appears when the RS7000 is restored to the initial factory settings (Page 25). The data in internal memory can be corrupted when the backup battery voltage runs too low, for example, and all data will automatically be restored to the factory settings, causing this message to appear.**

Memory Protected	**Memory protection is turned on, and you have attempted to alter data using a record, job, or edit operation.**
SIMM Error	**An appropriate pair of expansion SIMMs is not properly installed, or the pair is not properly matched (Page 20).**

● MIDI Errors

MIDI Buffer Full	**The MIDI receive buffer is full and processing cannot continue. Try receiving the data again.**

● Card/Disk Errors

Card/Disk Full	**The card or disk is full and no more data can be saved. Use a new card or disk, or make space by erasing unwanted data from the card or disk.**
File Not Found	**The specified file was not found on the card or disk during a load operation. Try again after re-inserting/re-connecting the card or disk.**
Bad Card/Disk	**The card or disk is unusable. Format the card or disk and try again.**
Card/Disk Not Ready	**A card or disk is not properly inserted in or connected to the RS7000.**
Unformatted Card/Disk	**The card or disk is not formatted, or the format is unusable by the RS7000. Check the card/disk contents.**
Write Protected	**The card or disk is write protected, or you have attempted to write to a read-only medium such as CD-ROM.**
Bad File	**An unusable file has been loaded.**
Can’t Change File Name	**When executing a Rename operation, a file or folder with the same name already exists in the specified folder.**
Illegal File	**The file specified for loading is unusable by the RS7000.**
No Data	**When executing a save operation, the specified song or style contains no data and cannot be saved.**
Too Long Sample	**You have attempted to load a sample which is too long.**
No Sample Files	**The linked sample files cannot be found during a load operation.**
Read/Write Error	**An error has occurred while reading from or writing to the card or disk. Check card insertion, disk connections, or SCSI termination.**
SCSI Error	**A SCSI error has occurred. Check the SCSI connections and termination.**
Copy Protected	**You have attempted to export a copy-protected sample.**
Illegal File Name	**The specified file name is unacceptable.**
Read Only File	**You have attempted to delete, rename, or overwrite a read-only file.**
Can’t Make Folder	**No more folders can be created below the current level because a folder having the same name exists on the card or disk.**
Too Deep Folder	**Folders below this level cannot be accessed.**
Not Empty Folder	**You have attempted to delete a folder that contains data.**
Unsupported Disk	**The connected disk drive cannot be used.**

● Other Messages (Not Errors)

Are you sure? NO[F2]/ YES[F3]	**Confirms that you want to execute a specified operation. Press [F2] or [F3] as required.**
Can't Undo. Cancel [F2]/OK [F3]	**When some jobs are executed the internal memory becomes full and undo cannot be used. Press [F3] if this is OK, or [F2] to abort the operation. Try again after erasing unwanted songs, patterns, or user phrases.**
Completed	**The specified load, save, format, or other job has been completed.**
Executing …	**A format operation or job is being executed. Please wait.**
Loading ... (xxxxxxxx) Abort [F3]	**Appears when a file is being loaded. Press [F3] to abort the load operation.**
Overwrite? NO[F2]/YES[F3]	**A save operation will overwrite data on the card or disk, and this message confirms whether it is OK to continue. Press [F2] or [F3] as required.**
Overwrite Sample Voice? Cancel [F2]/OK [F3]	**When executing Create after Realtime Loop Remix this message confirms whether it is OK to overwrite the sample voice in the current track. Press [F3] to overwrite, or [F2] to abort.**
Saving ... (xxxxxxxx) Abort [F3]	**Appears when a file is being saved. Press [F3] to abort the save operation.**
Same Common Sample Voice Number. Skip All [F2]/Renumber [F3]	**Appears when a pattern or song which uses common sample voices is loaded and a common sample voice will be loaded into a number which already contains data. Press [F2] skip loading the common sample voice data, or [F3] load the data after renumbering the voice.**
Sequence or Sample Voice Exists. Cancel [F2]/ Replace [F3]	**Appears when sequence or sample data already exists in a track selected in the sampling setup display.**

5. Voice List (Normal voice)

Inst. Group	GM		Synth Bass & Lead1		Synth Pad & Synth EFX1		Synth Material		Band Instrument		Classical Instrument & Wind		Ethnic & Percussion		SFX 1		Synth Bass & Lead2	
Bank MSB	0		63		63		63		63		63		63		63		63	
Bank LSB	0		0		1		2		3		4		5		6		7	
Program		EL		EL		EL		EL		EL		EL		EL		EL		EL
1	GrandPno	1	RezoBas1	1	SynthPad	2	Saw1 A	1	BritePno	1	Strings1	2	Kalimba1	1	Trance1	2	DX100Bas	2
2	BritePno	1	FunkBass	1	ChoirPad	2	Saw2 A	1	FM Piano	2	Strings2	1	Kalimba2	2	Trance2	2	FMBass4	1
3	E.Grand	1	BleepBas	2	Atms Pad	2	SwDual1A	2	El.Grand	1	Trem.Str	2	ThumbPno	2	Trance3	2	FMBass5	2
4	HnkyTonk	2	BlipBass	2	AnalogPd	2	SwDual2A	1	St.Piano	2	Syn Str1	2	LogDrum1	1	Trance4	2	FMBass6	2
5	E.Piano1	2	FM Bas1	2	VoicePad	2	SawOct A	2	HnkyTonk	2	Syn Str2	2	LogDrum2	1	Trance5	2	FM BDBas	2
6	E.Piano2	1	FM Bas2	2	GlassPad	2	Square A	1	Mono Pno	1	Syn Str3	2	PacifcPc	2	Trance6	2	Syn Slap	2
7	Harpsi.	1	BuzzBas1	1	SweepPd1	2	Pulse A	2	LoFi Pno	2	Syn Str4	2	Balafon	2	Trance7	2	FatBass1	1
8	Clavi.	1	Dog Bass	2	SweepPd2	2	PlsDualA	2	St.EP1	2	AnaQuart	2	SteelDr1	2	Trance8	2	FatBass2	2
9	Celesta	2	OctBass1	2	SmokyPad	2	SqurOctA	2	Chor.EP1	2	SyTrmStr	2	SteelDr2	2	Trance9	2	FatBass3	2
10	Glocken	1	OctBass2	2	WarmPad1	2	PulsOctA	2	Mono EP1	2	Pizz.Str	1	Gamelan1	2	Trance10	2	FatBass4	2
11	MusicBox	2	MonoBas1	2	WarmPad2	2	Sync A	1	LoFi EP1	2	Solo Str	2	Gamelan2	1	Trance11	2	VinBass1	1
12	Vibes	1	MonoBas2	2	StringPd	2	TriSineA	2	Wah EP1	2	Violin	2	BaliOrch	2	FunnyCPU	2	VinBass2	2
13	Marimba	1	SquarBa1	2	Rise Pad	2	Noise1 A	1	TremoEP1	2	Viola	2	AtlantPc	2	Siren	2	VinBass3	1
14	Xylophon	2	SquarBa2	2	Halo Pad	2	Noise2 A	1	Old EP	2	Cello	2	AsiaBel1	2	SystmDwn	2	VinBass4	1
15	TubulBel	1	DeepBass	2	Vox Pad	2	Lead1 A	1	MelloEP1	2	SynHarp1	2	AsiaBel2	2	Smoky	2	RezoBas2	1
16	Dulcimer	2	FlatBass	1	HarmoPad	2	Lead2 A	1	St.EP2	2	Celesta	2	Sitar1	1	Sonr&CPU	2	RezoBas3	1
17	DrawOrgn	2	Tri Bass	2	Hum Pad	2	Lead3 A	1	Chor.EP2	2	Glocken	1	Sitar2	2	FX-NG	2	RezoBas4	1
18	PercOrgn	2	SineBass	2	BlowPad1	2	FM1 A	1	Mono EP2	2	MusicBox	2	IndiaDrn	2	Machine?	2	GTekBas1	2
19	RockOrgn	2	DB Bass	2	SquarePd	2	FM2 A	1	LoFi EP2	2	SyTubBel	2	TibetDrn	2	Bikers	1	GTekBas2	2
20	ChrchOrg	2	DB BaDwn	2	Sci-Fi	2	FM3 A	1	Wah EP2	2	SynHrpsi	2	IndiaStr	2	RvrsLife	2	RampBass	2
21	ReedOrgn	2	KickBa1	2	TronStrn	2	Digi1 A	1	TremoEP2	2	BrasSect	2	Dulcimer	2	PanImpct	2	GarageBa	2
22	Acordion	2	KckB1Dwn	2	TronChor	2	Digi2 A	1	St.DxEP	2	Trumpet	1	Koto	2	ShotStar	1	BuzzBas2	2
23	Harmnica	1	KickBa2	2	Itopia	2	Digi3 A	1	ChorDxEP	2	Trombone	2	EthnPick	2	AnBubble	1	BuzzBas3	2
24	TangoAcd	2	KckB2Dwn	2	SynVoice	2	Digi4 A	1	BrteDxEP	2	Tuba	2	Banjo	2	GameOver	2	OrganBa	1
25	NylonGtr	1	CS RezBa	2	Ana Vox1	1	Digi5 A	1	Clavi.	2	Mute.Trp	1	Shamisen	2	ToneDeaf	1	R&B Bass	2
26	SteelGtr	1	MG Bass1	1	Ana Vox2	2	Digi6 A	1	WahClav1	2	Syn Horn	2	Fiddle	1	What?	2	SmoothBa	2
27	Jazz Gtr	1	MG Bass2	2	VoiceOoh	2	Digi7 A	1	WahClav2	1	SprnoSax	1	Shanai	2	Zap Gun	2	PunchBas	2
28	CleanGtr	1	MG Bass3	2	ChoirAah	2	Digi8 A	1	DigiClav	2	Alto Sax	1	Shakhchi	1	Hndrail1	1	DubBas1	1
29	Mute.Gtr	2	MG Pedal	2	Aah/Ooh	2	Digi9 A	1	Organ1	2	TenorSax	1	TremShak	2	Hndrail2	2	DubBas2	2
30	Ovrdrive	2	OB Bass	2	EP Pad1	2	Digi10 A	1	Organ2	2	Bari.Sax	2	AsiaFlut	2	Hitchhik	2	DubBas3	2
31	Dist.Gtr	2	XP Bass	2	EP Pad2	2	Digi11 A	1	Organ3	2	Oboe	2	Bagpipe	1	Digger	2	FatLoBas	2
32	GtrHarmo	1	PizzBass	2	EthnoPad	2	Digi12 A	1	Organ4	2	Eng.Horn	2	Sho	2	Propelr1	2	FTekBass	2
33	Aco.Bass	1	TalkBass	2	Angels	2	Saw1 B	1	HousOrg1	2	Bassoon	2	Digeridu	2	Propelr2	2	BL Saw5	1
34	FngrBass	1	VocoBas1	2	NewAgePd	2	Saw2 B	1	ThinOrgn	2	Clarinet	1	Koukin1	2	Greeting	2	BL Saw6	1
35	PickBass	1	VocoBas2	2	Rain	2	SwDual1B	2	RockOrg1	2	Piccolo	1	Koukin2	2	Safari	2	BL Saw7	1
36	Fretless	1	OctRezBa	2	OrintSeq	2	SwDual2B	1	DriveOrg	2	Flute	1	Berimba1	2	Sesame	2	BL Saw8	1
37	SlapBas1	1	CyberBas	2	SmokBell	2	SawOct B	2	DirtyOrg	2	Recorder	2	Berimba2	2	Buddha	2	BL Rezo1	1
38	SlapBas2	1	DkCorBa1	2	Atmosphr	2	Square B	1	MrtianOr	2	PanFlute	1	BrimbSol	1	Wah Seq1	2	BL Rezo2	2
39	SynBass1	1	HdCorBa1	2	Bright	2	Pulse B	2	ChrchOr1	2	Bottle	2	FngrCym1	2	Wah Seq2	2	BL Squr4	1
40	SynBass2	2	HdCorBa2	2	EthnoKey	2	PlsDualB	2	ChrchOr2	2	Whistle	1	FngrCym2	1	Biter	2	BL Squr5	1
41	Violin	1	Uni Bass	2	Ana Bell	2	SqurOctB	2	ReedOrgn	2	Ocarina	1	Gong	1	Vacuum	2	BL Dist9	1
42	Viola	2	SyncLow	2	PolySync	2	PulsOctB	2	Acordion	2	Strings3	2	ThaiGong	2	Brokndwn	2	BL Dst10	2
43	Cello	2	BL Saw1	1	AnaDrone	2	Sync B	1	Harmnica	1	Strings4	2	Shekere	1	Teleport	2	BL Dst11	1
44	Contrabs	2	BL Saw2	2	DigiBel1	2	TriSineB	2	TangoAcd	2	Strings5	2	TaikoDrm	1	Scat	2	BL Dst12	2
45	Trem.Str	2	BL Saw3	2	Crystal	2	Noise1 B	1	Vibes1	1	Syn Str5	2	Big Drum	1	Disaster	2	PolyBas1	2
46	Pizz.Str	1	BL Saw4	2	AnaSprng	2	Noise2 B	1	Vibes2	2	PopPizz	2	Timpani	2	Match	2	PolyBas2	2
47	Harp	2	BL Squr1	1	SynChime	2	Lead1 B	1	Vibes3	2	Harp	2	Tabla	2	LasrShot	2	NJS Bass	2
48	Timpani	2	BL Squr2	2	Mod Sine	2	Lead2 B	1	Marimba	1	SynHarp2	2	Udu	2	Whimsy1	2	FatPolyB	2
49	Strings1	2	BL Squr3	2	ShortRez	2	Lead3 B	1	Xylophon	2	TubulBel	1	Udu Bend	1	Whimsy2	2	NoizBass	1
50	Strings2	2	BL Dist1	2	Self Seq	2	FM1 B	1	FngrBas1	1	Harpsi.	2	Djembe	2	Feeder	2	OctHvyBa	2
51	Syn.Str1	2	BL Dist2	2	EchoBell	2	FM2 B	1	FngrBas2	1			EgyptDrm	2	Rising	2	TwnSawBa	2
52	Syn.Str2	2	BL Dist3	2	MajrBrs1	2	FM3 B	1	FlngFnB1	2			Surdo	2	Drain	2	AhabBass	2
53	ChoirAah	2	BL Dist4	2	MajrBrs2	2	Digi1 B	1	MuteFngB	1			Tambourn	1	Spin	2	WoahBass	2
54	VoiceOoh	1	BL Dist5	2	SoftBras	2	Digi2 B	1	CompFngB	2			AnTambrn	1	Takeoff	2	BuzzoidB	2
55	SynVoice	1	BL Dist6	2	SyStack1	2	Digi3 B	1	Subsonic	1			Cowbell	1	GiantStp	2	SykoBass	2
56	Orch.Hit	1	BL Dist7	1	SyStack2	2	Digi4 B	1	DistBass	2			AnCowbl1	1	CyberStp	2	DkCorBa2	2
57	Trumpet	1	BL Dist8	2	SyStack3	2	Digi5 B	1	WahBass1	1			AnCowbl2	1	Typhoon	2	Techstep	2
58	Trombone	2	MG Saw	1	DirtyStk	2	Digi6 B	1	WahBass2	1			Vibraslp	1	Rocker	2	Abstract	2
59	Tuba	2	OB Saw	2	SweepSaw	2	Digi7 B	1	PickBas1	2			AnVbrslp	1	Amphibia	2	SubSlide	2
60	Mute.Trp	1	Dual Saw	2	SwpXpand	2	Digi8 B	1	PickBas2	2			SyVbrslp	1	Escape	2	UK Oam	2
61	Fr.Horn	2	CSPortLd	2	Swp Sync	2	Digi9 B	1	MutePkBa	2			Bongo	2	Shower	1	Jazzstep	2
62	BrasSect	1	Wah Saw	1	SwpVoice	2	Digi10 B	1	SlapBas1	1			Conga	1	Thunder	2	BL Lead1	1
63	SynBras1	2	CSMonoLd	2	Goblins	2	Digi11 B	1	SlapBas2	1			AnaConga	1	Wind	2	BL Lead2	1
64	SynBras2	2	DualSqur	2	Echoes	2	Digi12 B	1	Fretles1	1			Timbale	1	Seashore	2	SqrSolo1	2

(grey box) : No sound.

The suffixes “A” ~ “D” on voice names in the "Synth Material" instrument group indicate the voice template type.

A : Long Decay, LFO Wave - Triangle
B : Short Decay, LFO Wave - Triangle
C : Long Decay, LFO Wave - Saw up
D : Long Decay, LFO Wave - S&H

Inst. Group	Synth Pad & Synth EFX2		SFX2		Drum Kit		GM Drum Kit	
Bank MSB	63		63		126		127	
Bank LSB	8		9		0		0	
Program		EL		EL		Kit Type		Kit Type
1	NoizPad1	2	LFOSync1	2	AnlgKit1	Trigger	StandKit	Trigger
2	NoizPad2	2	LFOSync2	2	AnlgKit2	Trigger	†	†
3	NoizPad3	2	LFOSync3	2	RhBoxKit	Trigger	†	†
4	NzModPad	2	LFOSync4	1	SynthKit	Trigger	†	†
5	ColdPad1	2	LFOSync5	1	SE Kit	Trigger	†	†
6	ColdPad2	2	LFOSync6	2	PsychKit	Trigger	†	†
7	BlowPad2	2	LFOSync7	2	Acid Kit	Trigger	†	†
8	WarmPad3	2	LFOSync8	2	TeknoKit	Trigger	†	†
9	LowHigh	2	LFOSync9	2	AmbntKit	Trigger	†	†
10	RevrsKey	2	LFOSyc10	2	Hard Kit	Trigger	†	†
11	ResLfoPd	2	LFOSyc11	2	HousKit1	Trigger	†	†
12	Xtacy	2	LFOSyc12	2	BreakKit	Trigger	†	†
13	Atlas	2	LFOSyc13	2	JunglKit	Trigger	†	†
14	ResChord	2	LFOSyc14	2	D&B Kit	Trigger	†	†
15	Wheezer	2	LFOSyc15	2	Big Kit	Trigger	†	†
16	SlowGas	2	LFOSyc16	2	Hip Kit1	Trigger	†	†
17	Snarly	2	LFOSyc17	2	Aco.Kit	Trigger	†	†
18	FrozenPd	2	LFOSyc18	2	Jazz Kit	Trigger	†	†
19	VPad	2	LFOSyc19	1	BrushKit	Trigger	†	†
20	Ele Pad	2	LFOSyc20	1	PercKit1	Trigger	†	†
21	AP Pad	2	LFOSyc21	1	BD Kit	Full Editing	†	†
22	DigiKey1	2	LFOSyc22	2	HH&CyKit	Full Editing	†	†
23	DigiKey2	2	LFOSyc23	2	SD Kit	Full Editing	†	†
24	DigiBel2	2	LFOSyc24	2	Tom Kit	Full Editing	†	†
25	Syn Bell	2	LFOSyc25	2	SFX Kit1	SFX	†	†
26	80sChime	2	LFOSyc26	2	SFX Kit2	SFX	†	†
27	AnaSyMod	2	LFOSyc27	2	AnlgKt1N	Note on/off	†	†
28	Goldchrd	2	LFOSyc28	2	AnlgKt2N	Note on/off	†	†
29	Cave	2	LFOSyc29	2	RhBoxKtN	Note on/off	†	†
30	BubbleSq	2	LFOSyc30	2	SynthKtN	Note on/off	†	†
31	DikiVibe	2	LFOSyc31	2	SE Kit N	Note on/off	†	†
32	ArpTech	2	LFOSyc32	2	PsychKtN	Note on/off	†	†
33	Unbell	2	LFOSyc33	2	AcidKitN	Note on/off	†	†
34	HappyMan	2	LFOSyc34	2	TeknoKtN	Note on/off	†	†
35	Ibiza	2	LFOSyc35	1	AmbntKtN	Note on/off	†	†
36	Orange	2	LFOSyc36	2	HardKitN	Note on/off	†	†
37	CheapRes	1	LFOSyc37	2	HousKt1N	Note on/off	†	†
38	HouseChd	2	LFOSyc38	1	BreakKtN	Note on/off	†	†
39	Lizzy	2	LFOSyc39	2	JunglKtN	Note on/off	†	†
40	PolySaw1	2	LFOSyc40	2	D&B KitN	Note on/off	†	†
41	PolySaw2	1	LFOSyc41	2	Big KitN	Note on/off	†	†
42	PolySaw3	2	LFOSyc42	2	HipKit1N	Note on/off	†	†
43	LushChor	2	LFOSyc43	1	Aco.KitN	Note on/off	†	†
44	Swp Poly	2	LFOSyc44	2	JazzKitN	Note on/off	†	†
45	LFO Pad1	2	LFO SFX1	2	BrushKtN	Note on/off	†	†
46	LFOSycPd	2	LFO SFX2	1	PercKt1N	Note on/off	†	†
47	LFO Pad2	2	LFO SFX3	1	RX Kit	Trigger	†	†
48	LFO Pad3	2	LFO SFX4	2	ElectKit	Trigger	†	†
49	Shoal	2	LFO SFX5	1	HousKit2	Trigger	†	†
50	LFO Stck	2	LFO SFX6	1	Hip Kit2	Trigger	†	†
51	Swp Noiz	2	LFO SFX7	1	R&B Kit	Trigger	†	†
52	VoxDcnd1	1	Police	1	SmothKit	Trigger	†	†
53	VoxDcnd2	2	Cops	2	HumanKit	Trigger	†	†
54	Ambient1	2	AlarmDwn	2	RevrsKit	Note on/off	†	†
55	Ambient2	2	BadTrip	2	RX Kit N	Note on/off	†	†
56	Ambient3	2	Dentist	2	ElectKtN	Note on/off	†	†
57	Ambient4	2	ShortWav	2	HousKt2N	Note on/off	†	†
58	Ambient5	2	GTR SFX	2	HipKit2N	Note on/off	†	†
59	Ambient6	2	Whirlpol	2	R&B KitN	Note on/off	†	†
60	Ambient7	2	RetroUFO	2	SmothKtN	Note on/off	†	†
61	Ambient8	2	EleNoiz	2	HumanKtN	Note on/off	†	†
62	Ambient9	2	Pingpong	2	Perc2Kit	Full Editing	†	†
63	Ambent10	2	DelySFX1	2	SFX Kit3	SFX	†	†
64			DelySFX2	1			†	†

: No sound.

The suffixes “A” ~ “D” on voice names in the "Synth Material" instrument group indicate the voice template type.

A : Long Decay, LFO Wave - Triangle
B : Short Decay, LFO Wave - Triangle
C : Long Decay, LFO Wave - Saw up
D : Long Decay, LFO Wave - S&H

Inst. Group	GM		Synth Bass & Lead1		Synth Pad & Synth EFX1		Synth Material		Band Instrument		Classical Instrument & Wind		Ethnic & Percussion		SFX 1		Synth Bass & Lead2	
Bank MSB	0		63		63		63		63		63		63		63		63	
Bank LSB	0		0		1		2		3		4		5		6		7	
Program		EL		EL		EL		EL		EL		EL		EL		EL		EL
65	SprnoSax	1	CS Squar	2	AsianEch	2	Saw1 C	1	Fretles2	2			Agogo	1	Steam	1	PWM Lead	2
66	Alto Sax	1	WahSquar	1	SoundTrk	2	Saw2 C	1	ChoFrles	2			AnaMetal	1	Bubble	1	BPF Lead	2
67	TenorSax	1	WahPulse	1	Majesty	2	SwDual1C	2	FlnFrles	2			Cabasa	1	Dog	1	PolySaw2	2
68	Bari.Sax	2	SubOsc1	2	Bali Pad	2	SwDual2C	1	AcoBass1	1			Maracas	1	Horse	1	TechSaw	2
69	Oboe	2	SubOsc2	2	Warrior	2	SawOct C	2	AcoBass2	1			SmbWhisl	1	Tweet 1	1	PulsFbLd	1
70	Eng.Horn	2	CS ModLd	2	PwrSweep	2	Square C	1	BaGlisnd	2			Guiro	2	Tweet 2	2	Poly Ld1	2
71	Bassoon	2	PWM Solo	2	Palace	2	Pulse C	2	CleanGt1	2			AnaGuiro	1	Growl	1	Poly Ld2	2
72	Clarinet	1	PolySaw1	1	Soda	2	PlsDualC	2	CleanGt2	2			Claves	1	DoorSqek	1	Poly Ld3	2
73	Piccolo	1	StarLead	2	Coaster	2	SqurOctC	2	ChorsGt1	2			AnaClave	1	DoorSlam	1	Poly Ld4	2
74	Flute	1	PowrSolo	2	MilkyWay	2	PulsOctC	2	FlangeGt	2			WoodBlok	1	Telphon1	1	Saw Solo	1
75	Recorder	2	SyncLd1	2	Bush	2	Sync C	1	Wah Gtr1	2			Cuica	2	Telphon2	1	SinSolo1	2
76	PanFlute	1	SyncLd2	2	EnginRom	2	TriSineC	2	Wah Gtr2	1			Triangle	2	Scratch1	1	SinSolo2	2
77	Bottle	2	BeepLead	2	Glaswork	2	Noise1 C	1	Mute Gtr	2			Shaker1	1	TurnTabl	1	AgileLd	2
78	Shakhchi	1	BuzzSolo	2	OohStack	2	Noise2 C	1	Jazz Gtr	1			AnShaker	1	TapeRwnd	1	SweetP10	1
79	Whistle	1	5th Saw	2	Galaxy	2	Lead1 C	1	OctJzGtr	2			JinglBel	1	GlasNoiz	1	SinSolo3	1
80	Ocarina	1	5thPulse	2	Comet	2	Lead2 C	1	Ovrdrive	2			BellTree	1	MetalNz1	1	RampLead	1
81	SquareLd	2	Bend 5th	2	Shrine	2	Lead3 C	1	Dist.Gtr	2			WindChm1	1	MetalNz2	1	SqrSolo2	2
82	Saw.Lead	2	PopLd4th	2	Hovering	2	FM1 C	1	WahFazG1	2			WindChm2	2	IndstTom	1	SynBrass	2
83	CaliopLd	2	VoxSyn1	2	Marsh	2	FM2 C	1	WahFazG2	2			Castanet	1	CarElgn	1	Oct.Lead	2
84	Chiff Ld	2	VoxSyn2	2	Hypnosis	2	FM3 C	1	PowrChd1	1			Sticks	1	CarTSqel	1	PardisLd	2
85	CharanLd	2	BreathLd	2	WaterBel	2	Digi1 C	1	GtrHarmo	1			Feet1	2	Car Pass	1	Pipe Ld2	2
86	Voice Ld	1	Pipe Ld1	2	Hallucin	2	Digi2 C	1	SteelGtr	1			Clap L	1	CarCrash	1	Pipe Ld3	2
87	Fifth Ld	2			NewDrone	2	Digi3 C	1	12StrGtr	2			Clap S	1	Train	1	ResTouch	2
88	Bass &Ld	2			Motor	1	Digi4 C	1	NylonGt1	1			AnaClap1	1	Helicptr	1	RndmBeep	2
89	NewAgePd	2			Sonar1	1	Digi5 C	1	NylonGt2	2			SynClap1	1	RevBurst	1	EnrgySqr	2
90	Warm Pad	2			Sonar2	1	Digi6 C	1	P.Scrape	1			FngrSnap	1	RevLowNz	1	Tech Saw	2
91	PolySyPd	2			OrganStk	2	Digi7 C	1	FretNoiz	2			AnSdStk1	1	Laugh	1	TeknoMan	2
92	ChoirPad	2			Vox Bell	2	Digi8 C	1	DpChorEP	2			AnSdStk2	1	Scream	1	TechLead	2
93	BowedPad	2			ColdStab	1	Digi9 C	1	MelloEP2	2			AnSdStk3	1	Punch	1	BigSyn1	2
94	MetalPad	2			Kick&Hit	1	Digi10 C	1	Digi EP1	2			AnSdStk4	1	Heart	1	BigSyn2	2
95	Halo Pad	2			BrasHit1	1	Digi11 C	1	Digi EP2	2			MelodTom	1	Footstep	1	EleCarpt	2
96	SweepPad	2			Syn Stab	1	Digi12 C	1	Digi EP3	2			Syn Drum	2	Applause	2	Autism	1
97	Rain	2			GiantStb	1	Saw1 D	1	Mono EP3	1			Ana Tom	1	BrthNoiz	1	HdcorBnd	2
98	SoundTrk	2			HardStab	1	Saw2 D	1	Chor EP3	2			Ana BD	1	Gunshot	1		
99	Crystal	2			OrganStb	1	SwDual1D	2	Mono EP4	1			AnaCymb1	1	Bomb	1		
100	Atmosphr	2			Orch.Hit	1	SwDual2D	1	Chor EP4	2			AnaCymb2	1	HiQ 1	1		
101	Bright	2			HammerHt	1	SawOct D	2	MonEP3/4	2			LoopCymb	1	HiQ 2	1		
102	Goblins	2			ChoirHit	1	Square D	1	TrmEP3/4	2			RevCymbl	1	SFX Gun1	1		
103	Echoes	2			BrasHit2	1	Pulse D	2	OldSkPno	1			Rev Roll	1	SFX Gun2	1		
104	Sci-Fi	2			BrasHit3	1	PlsDualD	2	ClickEP	2			Rev SD	1	BrstNoiz	1		
105	Sitar	1			BrasHit4	1	SqurOctD	2	SweetEP	2			Rev Tom	1	Ripper	1		
106	Banjo	2			GuitrHit	1	PulsOctD	2	RotrOrgn	2			Rev Kick	1	RvThundr	1		
107	Shamisen	2			OrganHit	1	Sync D	1	RockOrg2	2			RevHatCl	1	RvDoorSl	1		
108	Koto	2			EP Hit	1	TriSineD	2	HousOrg2	2			RevTimba	1	RvScrDwn	1		
109	Kalimba	1			NY Hit	1	Noise1 D	1	SurfOrgn	2			RevDjemb	1	RvTapeRw	1		
110	Bagpipe	1			RvKck&Ht	1	Noise2 D	1	SynthOrg	2			RevFCym	1	RvGlasNz	1		
111	Fiddle	1			RvBrsHt1	1	Lead1 D	1	RockOrg3	2			Shaker2	2	RvMtlNz1	1		
112	Shanai	2			RvGntStb	1	Lead2 D	1	JazzOrg1	2			AnMaracs	1	RvMtlNz2	1		
113	TnklBell	2			RvOrgStb	1	Lead3 D	1	ChrchOr3	2			AnGuiro2	1	RvIndsTm	1		
114	Agogo	1			RvOrchHt	1	FM1 D	1	DigiOrg1	2			TambrnRX	1	RvCarElg	1		
115	SteelDrm	1			RvHamrHt	1	FM2 D	1	DigiOrg2	2			CowbelRX	1	RvCarCrs	1		
116	WoodBlok	1			RvChorHt	1	FM3 D	1	JazzOrg2	2			Bongo RX	2	RevPunch	1		
117	TaikoDrm	1			RvBrsHt2	1	Digi1 D	1	GarageOr	2			Agogo RX	2	RvGunsht	1		
118	MelodTom	1			RvBrsHt3	1	Digi2 D	1	FngrBas3	2			ShakerRX	1	RevBomb	1		
119	Syn.Drum	1			RvBrsHt4	1	Digi3 D	1	FlngFnB2	2			Feet2	1	RevHiQ1	1		
120	RevCymbl	1			RvGtrHit	1	Digi4 D	1	SlapBas3	2			Clap Aco	1	RevHiQ2	1		
121	FretNoiz	2			RvOrgHit	1	Digi5 D	1	SlapBas4	2			AnaClap2	1	RevSyTm1	1		
122	BrthNoiz	1			RvEP Hit	1	Digi6 D	1	AcoBass3	2			Clap RX5	1	RevSyTm2	1		
123	Seashore	2			RvNY Hit	1	Digi7 D	1	CleanGt3	1			SynClap2	1	RvSFXGn1	1		
124	Tweet	2					Digi8 D	1	ChorsGt2	2			SynSdStk	1	RvSFXGn2	1		
125	Telphone	1					Digi9 D	1	ChMuteGt	2			FM SdStk	1	RvBrstNz	1		
126	Helicptr	1					Digi10 D	1	DistMute	1			SynTom1	1	RvRipper	1		
127	Applause	1					Digi11 D	1	PowrChd2	1			SynTom2	1	RvSyVibr	1		
128	Gunshot	1					Digi12 D	1	BrightAG	2			AnaClick	1	RvBelTre	1		

(shaded box) : No sound.

The suffixes "A" ~ "D" on voice names in the "Synth Material" instrument group indicate the voice template type.
A : Long Decay, LFO Wave - Triangle
B : Short Decay, LFO Wave - Triangle
C : Long Decay, LFO Wave - Saw up
D : Long Decay, LFO Wave - S&H

Appendix

Inst. Group	Synth Pad & Synth EFX2		SFX2		Drum Kit		GM Drum Kit	
Bank MSB	63		63		126		127	
Bank LSB	8		9		0		0	
Program		EL		EL		Kit Type		Kit Type
65			DelySFX3	1			StandKit	Trigger
66			DelySFX4	2			†	†
67			DelySFX5	2			†	†
68			DelySFX6	2			†	†
69			DelySFX7	1			†	†
70			Seq SFX1	2			†	†
71			Seq SFX2	2			†	†
72			EerieRes	2			†	†
73			Tibet	2			†	†
74			Airsnake	2			†	†
75			Hammer	2			†	†
76			EchoShot	2			†	†
77			SFX Prc1	2			†	†
78			SFX Prc2	2			†	†
79			SFX Prc3	2			†	†
80			SFX Prc4	2			†	†
81			SFX Prc5	2			†	†
82			SFX Prc6	2			†	†
83			SFX Prc7	2			†	†
84			NoizClap	2			†	†
85			FEG Noiz	1			†	†
86			FlngNoiz	2			†	†
87			SynMetal	1			†	†
88			Rebound	2			†	†
89			Zap1	1			†	†
90			Zap2	1			†	†
91			Zoom	1			†	†
92			Alarm	1			†	†
93			Vox Go!	1			†	†
94			VoxWhoa!	1			†	†
95			Vox Yo!	1			†	†
96			VoxAhhh!	1			†	†
97			Vox Huh!	1			†	†
98			Vox Muh!	1			†	†
99			Vox Tah!	1			†	†
100			Vox Buh!	1			†	†
101			Vox Hit	1			†	†
102			Vocd Ahh	1			†	†
103			VoxDrum1	1			†	†
104			VoxDrum2	1			†	†
105			Scratch2	1			†	†
106			ScrtchDr	1			†	†
107			ScrtchVx	1			†	†
108			RvSyMetl	1			†	†
109			RvRebond	2			†	†
110			RevZap1	1			†	†
111			RevZap2	1			†	†
112			RevZoom	1			†	†
113			RevAlarm	1			†	†
114			RvVoxGo!	1			†	†
115			RvVxWhoa	1			†	†
116			RvVoxYo!	1			†	†
117			RvVxAhhh	1			†	†
118			RvVxHuh!	1			†	†
119			RvVxMuh!	1			†	†
120			RvVxTah!	1			†	†
121			RvVxBuh!	1			†	†
122			RvVoxHit	1			†	†
123			RvVxDrm2	1			†	†
124							†	†
125							†	†
126							†	†
127							†	†
128							†	†

(grey box) : No sound.

The suffixes "A" ~ "D" on voice names in the "Synth Material" instrument group indicate the voice template type.

A : Long Decay, LFO Wave - Triangle
B : Short Decay, LFO Wave - Triangle
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D : Long Decay, LFO Wave - S&H

6. Drum Voice List

Full edit type

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		21			22			23			24		
Kit Type		Full Editing			Full Editing			Full Editing			Full Editing		
Note#	Note	BD Kit	Key off	Alternate assign	HH&Cy Kit	Key off	Alternate assign	SD Kit	Key off	Alternate assign	Tom Kit	Key off	Alternate assign
0	C -2	Reverse BD Electro	○		Reverse Hi-Hat Open Synth	○		Vox Go!	○		Reverse Tom Human 1	○	
1	C# -2	Reverse BD FX Gate	○		Reverse Hi-Hat Open SE	○		Scratch Vox 1 F	○		Reverse Tom Human 2	○	
2	D -2	Reverse BD Hammer	○		Reverse Hi-Hat Open Analog 81	○		Vox Buh!	○		Reverse Tom Electro 1	○	
3	D# -2	Reverse BD Analog Power	○		Reverse Hi-Hat Closed Analog 70	○		Vox Tah!	○		Reverse Tom Electro 2	○	
4	E -2	Reverse BD Analog Distortion 6	○		Reverse Hi-Hat Open Analog 70	○		Vox Hit	○		Reverse Tom SFX 1	○	
5	F -2	Reverse BD Analog Distortion 3	○		Reverse Hi-Hat Closed 90	○		Hi Blip	○		Reverse Tom SFX 2	○	
6	F# -2	Reverse BD Analog Distortion 2	○		Reverse Hi-Hat Open 90	○		Hi Q 2	○		Reverse Tom Analog 90 1	○	
7	G -2	Reverse BD Analog Tight	○		Hi-Hat Closed R&B	○		Hi Q 1	○		Reverse Tom Analog 90 2	○	
8	G# -2	Reverse BD Analog 94	○		Hi-Hat Pedal R&B	○		Zap 1	○		Reverse Tom Analog Distortion 1	○	
9	A -2	Reverse BD Analog Blip 2	○		Hi-Hat Open R&B	○		Sword	○		Reverse Tom Analog Distortion 2	○	
10	A# -2	Reverse BD Analog Rubber 2	○		Hi-Hat Closed Light	○		FX Metal	○		Tom Human	○	
11	B -2	BD Electro	○		Hi-Hat Pedal Light	○		Metal Noise 1	○		Tom Human	○	
12	C -1	BD FX Gate	○		Hi-Hat Open Light	○		Synth Click	○		Tom Human	○	
13	C# -1	BD Hammer	○		Hi-Hat Closed RX5	○		Snare Hammer	○		Tom Human	○	
14	D -1	BD Analog Power	○		Hi-Hat Half RX7	○		Snare Wood	○		Tom Human	○	
15	D# -1	BD Analog Distortion 5	○		Hi-Hat Open RX5	○		Snare Timber	○		Tom Human	○	
16	E -1	BD Analog Distortion 6	○		Hi-Hat Closed Lo-fi	○		Snare FX Noise	○		Tom Electro 1 1	○	
17	F -1	BD Analog Distortion 4	○		Hi-Hat Open Lo-fi 1	○		Snare FX Gate	○		Tom Electro 1 2	○	
18	F# -1	BD Analog Distortion 3	○		Hi-Hat Open Lo-fi 2	○		Snare Hip FX L	○		Tom Electro 1 3	○	
19	G -1	BD Analog Distortion 2	○		Hi-Hat Closed Tek	○		Snare Hip FX H	○		Tom Electro 1 4	○	
20	G# -1	BD Analog Tight	○		Hi-Hat Open Tek 1	○		Snare Electro	○		Tom Electro 1 5	○	
21	A -1	BD Analog 94	○		Hi-Hat Open Tek 2	○		Snare FM	○		Tom Electro 1 6	○	
22	A# -1	BD Analog Blip 2	○		Hi-Hat Closed Analog 70	○		Snare Analog 83	○		Tom SFX 1	○	
23	B -1	BD Analog Rubber 2	○		Hi-Hat Open Analog 70 1	○		Snare Analog 82	○		Tom SFX 2	○	
24	C 0	BD Analog 93	○		Hi-Hat Open Analog 70 2	○		Snare Analog 95	○		Tom SFX 3	○	
25	C# 0	BD Analog 90	○		Hi-Hat Closed Analog 80	○		Snare Analog 94	○		Tom SFX 4	○	
26	D 0	BD Analog 83	○		Hi-Hat Open Analog 80 1	○		Snare Analog 93	○		Tom SFX 5	○	
27	D# 0	BD Analog 82	○		Hi-Hat Open Analog 80 2	○		Snare Analog 92	○		Tom SFX 6	○	
28	E 0	BD Analog 92	○		Hi-Hat Closed 90	○		Snare Analog 90	○		Tom Analog 90 1	○	
29	F 0	BD Analog 91	○		Hi-Hat Open 90 1	○		Snare Analog 91	○		Tom Analog 90 2	○	
30	F# 0	BD Analog Deep	○		Hi-Hat Open 90 2	○		Snare Analog 91 Q	○		Tom Analog 90 3	○	
31	G 0	BD Analog Hard 2	○		Hi-Hat Closed 90	○		Snare Analog Gate	○		Tom Analog 90 4	○	
32	G# 0	BD Analog Hard 1	○		Hi-Hat Open 90 1	○		Snare Synth 1	○		Tom Analog 90 5	○	
33	A 0	BD Analog Blip 1	○		Hi-Hat Open 90 2	○		Snare Synth 2	○		Tom Analog 90 6	○	
34	A# 0	BD Analog Rubber 1	○		Hi-Hat Closed Analog 81 1	○		Snare Synth 3	○		Tom Analog Distortion 1	○	
35	B 0	BD Analog Loose	○		Hi-Hat Closed Analog 81 2	○		Snare Synth 4	○		Tom Analog Distortion 2	○	
36	C 1	BD Synth 1	○		Hi-Hat Open Analog 81 1	○		Snare Analog Distortion	○		Tom Analog Distortion 3	○	
37	C# 1	BD Synth 2	○		Hi-Hat Open Analog 81 2	○		Snare Noise Distortion	○		Tom Analog Distortion 4	○	
38	D 1	BD Analog Distortion 1	○		Hi-Hat Open Analog 81 3	○		Metal Noise 2	○		Tom Analog Distortion 5	○	
39	D# 1	Ripper	○		Hi-Hat Closed Analog DM	○		Snare Analog 81 L	○		Tom Analog Distortion 6	○	
40	E 1	BD Analog 70 L	○		Hi-Hat Open Analog DM 1	○		Snare Analog 81	○		Tom Synth 1 1	○	
41	F 1	BD Analog 70	○		Hi-Hat Open Analog DM 2	○		Snare Analog 80	○		Tom Synth 1 2	○	
42	F# 1	BD Analog 80	○		Hi-Hat Closed Synth	○		Snare Analog 70 L	○		Tom Synth 1 3	○	
43	G 1	BD Analog 80 Long	○		Hi-Hat Open Synth 1	○		Snare Analog 70	○		Tom Synth 1 4	○	
44	G# 1	BD Dry	○		Hi-Hat Open Synth 2	○		Snare Analog DM	○		Tom Synth 1 5	○	
45	A 1	BD Dry Hard	○		Hi-Hat Closed Synth	○		Snare Clap	○		Tom Synth 1 6	○	
46	A# 1	BD Room 1	○		Hi-Hat Open Synth 1	○		Snare Mid Room	○		Tom Industrial 1	○	
47	B 1	BD Soft	○		Hi-Hat Open Synth 2	○		Snare Ambience	○		Tom Industrial 2	○	
48	C 2	BD Room 2	○		Hi-Hat Closed SE	○		Snare Piccolo 1	○		Tom Industrial 3	○	
49	C# 2	BD Break Lo-fi 2	○		Hi-Hat Open SE 1	○		Snare Piccolo Rim 1	○		Tom Industrial 4	○	
50	D 2	BD Break Lo-fi 1	○		Hi-Hat Open SE 2	○		Snare Break Lo-fi 3	○		Tom Industrial 5	○	
51	D# 2	BD & Hi-Hat Open	○		Hi-Hat Closed Heavy	○		Snare Break Lo-fi 2	○		Tom Industrial 6	○	
52	E 2	BD Jungle 2	○		Hi-Hat Pedal Heavy	○		Snare Break Lo-fi 1	○		Tom Analog 80 1	○	
53	F 2	BD Jungle 1	○		Hi-Hat Open Heavy	○		Snare Roll Break	○		Tom Analog 80 2	○	
54	F# 2	BD Jungle 3	○		Hi-Hat Open Heavy Brush	○		Snare Jungle 3	○		Tom Analog 80 3	○	
55	G 2	BD D&B 1	○		Hi-Hat Closed Tight	○		Snare Jungle 1	○		Tom Analog 80 4	○	
56	G# 2	BD D&B 2	○		Hi-Hat Pedal Heavy	○		Snare Jungle 2	○		Tom Analog 80 5	○	
57	A 2	BD RX5 1	○		Hi-Hat Open Heavy	○		Snare D&B 1	○		Tom Analog 80 6	○	
58	A# 2	BD RX5 2	○		Hi-Hat Closed Break	○		Snare D&B 2	○		Tom Analog 80 Soft 1	○	
59	B 2	BD Room 3	○		Hi-Hat Pedal Break 1	○		Snare D&B 3	○		Tom Analog 80 Soft 2	○	
60	C 3	BD Power Gate	○		Hi-Hat Open Break	○		Snare D&B 4	○		Tom Analog 80 Soft 3	○	
61	C# 3	BD R&B 1	○		Hi-Hat Closed Tight	○		Snare Roll	○		Tom Analog 80 Soft 4	○	
62	D 3	BD R&B 2	○		Hi-Hat Pedal Break 2	○		Reverse Roll	○		Tom Analog 80 Soft 5	○	
63	D# 3	BD Lo-fi	○		Hi-Hat Open Break	○		Reverse Snare	○		Tom Analog 80 Soft 6	○	

The overall kit sound can be varied by using the Voice Edit parameters.
All instruments are compatible with Key Off messages.

Bank MSB		126			Bank MSB		126			126		
Bank LSB		0			Bank LSB		0			0		
Program		62			Program		21			22		
Kit Type		Full Editing			Kit Type		Full Editing			Full Editing		
Note#	Note	Perc2 Kit	Key off	Alternate assign	Note#	Note	BD Kit	Key off	Alternate assign	HH&Cy Kit	Key off	Alternate assign
0	C -2	Reverse Surdo Open	○		64	E 3	BD Hip Deep	○		Reverse Hi-Hat	○	
1	C# -2	Reverse Djembe Open	○		65	F 3	BD Break Deep	○		Ride Cymbal 90	○	
2	D -2	Reverse Tabla Open	○		66	F# 3	BD Break Heavy	○		Ride Cymbal Heavy 1	○	
3	D# -2	Reverse Tabla High	○		67	G 3	BD Break Hard	○		Ride Cymbal Heavy Brush	○	
4	E -2	Reverse Udu Low	○		68	G# 3	Big Drum	○		Ride Cymbal Heavy 2	○	
5	F -2	Reverse Udu Finger	○		69	A 3	Taiko Drum	○		Ride Cymbal Heavy Dark	○	
6	F# -2	Reverse Conga L	○		70	A# 3	Surdo Open	○		Ride Cymbal Cup 1	○	
7	G -2	Reverse Conga H Mute	○		71	B 3	Feet 2	○		Ride Cymbal Cup 2	○	
8	G# -2	Reverse Conga H Open	○		72	C 4	BD Industrial	○		Ride Cymbal Cup 3	○	
9	A -2	Reverse Bongo H	○		73	C# 4	Door Slam	○		Ride Cymbal Cup Brush	○	
10	A# -2	Reverse Timbale	○		74	D 4	Punch	○		Metal Noise 2	○	
11	B -2	Reverse Sticks	○		75	D# 4	Heart	○		Crash Cymbal 90	○	
12	C -1	Reverse Shekere 2	○		76	E 4	Feet 1	○		Crash Analog 80	○	
13	C# -1	Reverse Shaker 3	○		77	F 4	BD Human	○		Cymbal Synth 1	○	
14	D -1	Reverse Shaker 2	○		78	F# 4	BD Human Deep	○		Cymbal Synth 1 L	○	
15	D# -1	Reverse Shaker 1	○		79	G 4	Vox Buh!	○		Cymbal Synth 2	○	
16	E -1	Big Drum	○		80	G# 4	Vox Muh!	○		Cymbal Synth 3	○	
17	F -1	Taiko Drum	○		81	A 4	Reverse BD Analog 93	○		Reverse Synth Cymbal	○	
18	F# -1	Tom Industrial	○		82	A# 4	Reverse BD Analog 90	○		Crash Cymbal Heavy 1	○	
19	G -1	Surdo Open	○		83	B 4	Reverse BD Analog 83	○		Crash Cymbal Heavy Brush	○	
20	G# -1	Surdo Mute	○		84	C 5	Reverse BD Analog 82	○		Crash Cymbal Heavy 2	○	
21	A -1	Djembe Open	○		85	C# 5	Reverse BD Analog 91	○		Crash Cymbal Heavy 3	○	
22	A# -1	Djembe Mute	○		86	D 5	Reverse BD Analog Deep	○		Splash Cymbal 1	○	
23	B -1	Djembe Edge	○		87	D# 5	Reverse BD Analog Hard 1	○		Splash Cymbal 2	○	
24	C 0	Tabla Bend	○		88	E 5	Reverse BD Analog Blip 1	○		Splash Cymbal Brush	○	
25	C# 0	Tabla Open	○		89	F 5	Reverse BD Analog Rubber 1	○		Crash Cymbal Slow Attack	○	
26	D 0	Tabla Mute	○		90	F# 5	Reverse BD Analog Loose	○		Reverse Cymbal Loop	○	
27	D# 0	Tabla High	○		91	G 5	Reverse BD Synth 1	○		Gong 1	○	
28	E 0	Udu Low	○		92	G# 5	Reverse BD Synth 2	○		Gong 2	○	
29	F 0	Udu High	○		93	A 5	Reverse BD Analog Distortion 1	○		Gong 3	○	
30	F# 0	Udu Finger	○		94	A# 5	Reverse Ripper	○		Finger Cymbal	○	
31	G 0	Conga L	○		95	B 5	Reverse BD Analog 70	○		Ride Cymbal Light	○	
32	G# 0	Conga H Mute	○		96	C 6	Reverse BD Analog 81	○		Ride Cymbal Light Brush	○	
33	A 0	Conga H Open	○		97	C# 6	Reverse BD Dry	○		Crash Cymbal Light	○	
34	A# 0	Bongo L	○		98	D 6	Reverse BD Soft	○		Crash Cymbal Light Brush	○	
35	B 0	Bongo H	○		99	D# 6	Reverse BD Room 2	○		Splash Cymbal 3	○	
36	C 1	Bongo RX5 L	○		100	E 6	Reverse BD Break Lo-fi 2	○		Chinese Cymbal	○	
37	C# 1	Bongo RX5 H	○		101	F 6	Reverse BD Break Lo-fi 1	○		Crash Cymbal Slow Attack	○	
38	D 1	Conga Analog 1	○		102	F# 6	Reverse BD & Hi-Hat Open	○		Cymbal Synth 1	○	
39	D# 1	Conga Analog 2	○		103	G 6	Reverse BD Jungle 3	○		Splash Cymbal 4	○	
40	E 1	Conga Analog 3	○		104	G# 6	Reverse BD D&B 1	○		Reverse Ride Cymbal Heavy	○	
41	F 1	Conga Analog 4	○		105	A 6	Reverse BD D&B 2	○		Reverse Ride Cymbal Cup	○	
42	F# 1	Conga Analog 5	○		106	A# 6	Reverse BD RX5 1	○		Reverse Metal Noise 2	○	
43	G 1	Timbale L	○		107	B 6	Reverse BD RX5 2	○		Reverse Crash Cymbal 90	○	
44	G# 1	Timbale H	○		108	C 7	Reverse BD Room 3	○		Reverse Crash Analog 80	○	
45	A 1	Log Drum 1	○		109	C# 7	Reverse BD Power Gate	○		Reverse Cymbal Synth 1	○	
46	A# 1	Log Drum 2	○		110	D 7	Reverse BD R&B 1	○		Reverse Crash Cymbal Heavy	○	
47	B 1	Log Drum 3	○		111	D# 7	Reverse BD R&B 2	○		Reverse Splash Cymbal 1	○	
48	C 2	Wood Block L	○		112	E 7	Reverse BD Lo-fi	○		Reverse Splash Cymbal 2	○	
49	C# 2	Wood Block H	○		113	F 7	Reverse BD Break Deep	○		Reverse Gong 1	○	
50	D 2	Castanet	○		114	F# 7	Reverse BD Break Heavy	○		Reverse Gong 2	○	
51	D# 2	Claves	○		115	G 7	Reverse BD Break Hard	○		Reverse Finger Cymbal	○	
52	E 2	Claves Analog	○		116	G# 7	Reverse Big Drum	○		Reverse Ride Cymbal Light	○	
53	F 2	Sticks	○		117	A 7	Reverse Taiko Drum	○		Reverse Crash Cymbal Light	○	
54	F# 2	Finger Snap	○		118	A# 7	Reverse Surdo Open	○		Reverse Splash Cymbal 3	○	
55	G 2	Shekere 3	○		119	B 7	Reverse Feet 2	○		Reverse Hi-Hat Closed Heavy	○	
56	G# 2	Shekere 2	○		120	C 8	Reverse Tom Industrial	○		Reverse Hi-Hat Pedal Heavy	○	
57	A 2	Shekere 1	○		121	C# 8	Reverse Door Slam	○		Reverse Hi-Hat Open Heavy	○	
58	A# 2	Shaker 3	○		122	D 8	Reverse Punch	○		Reverse Hi-Hat Closed Light	○	
59	B 2	Cabasa	○		123	D# 8	Reverse Feet 1	○		Reverse Hi-Hat Pedal Light	○	
60	C 3	Shaker RX11	○		124	E 8	Reverse BD Human	○		Reverse Hi-Hat Open Light	○	
61	C# 3	Shaker 2	○		125	F 8	Reverse BD Human Deep	○		Reverse Hi-Hat Closed Break	○	
62	D 3	Shaker 1	○		126	F# 8	Reverse Vox Buh!	○		Reverse Hi-Hat Pedal Break 1	○	
63	D# 3	Shaker Analog	○		127	G 8	Reverse Vox Muh!	○		Reverse Hi-Hat Open Break	○	

The overall kit sound can be varied by using the Voice Edit parameters.
All instruments are compatible with Key Off messages.

Bank MSB		126			126			126		
Bank LSB		0			0			0		
Program		23			24			62		
Kit Type		Full Editing			Full Editing			Full Editing		
Note#	Note	SD Kit	Key off	Alternate assign	Tom Kit	Key off	Alternate assign	Perc2 Kit	Key off	Alternate assign
64	E 3	Cymbal Synth 2	○		Tom Hard 1	○		Maracas Analog 80	○	
65	F 3	Brush Tap Soft	○		Tom Hard 2	○		Maracas	○	
66	F# 3	Brush Tap	○		Tom Hard 3	○		Maracas Analog 70	○	
67	G 3	Brush Slap Soft	○		Tom Hard 4	○		Gong 1	○	
68	G# 3	Brush Slap	○		Tom Hard 5	○		Gong 2	○	
69	A 3	Brush Swirl	○		Tom Hard 6	○		Gong 3	○	
70	A# 3	Brush Swirl Short	○		Tom Soft 1	○		Cymbal Synth 3	○	
71	B 3	Snare RX5 1	○		Tom Soft 2	○		Metal Noise 2	○	
72	C 4	Snare RX5 2	○		Tom Soft 3	○		Sword	○	
73	C# 4	Snare Mid Rim	○		Tom Soft 4	○		Glass Noise	○	
74	D 4	Snare Dry	○		Tom Soft 5	○		FX Metal	○	
75	D# 4	Snare Dry Rim	○		Tom Soft 6	○		Cowbell	○	
76	E 4	Snare Break Rim	○		Tom Soft Dark 1	○		Cowbell RX11	○	
77	F 4	Snare R&B 1	○		Tom Soft Dark 2	○		Agogo L	○	
78	F# 4	Snare R&B 2	○		Tom Soft Dark 3	○		Agogo H	○	
79	G 4	Snare R&B Rim	○		Tom Soft Dark 4	○		Agogo RX5 L	○	
80	G# 4	Snare Piccolo Rim 2	○		Tom Soft Dark 5	○		Agogo RX5 H	○	
81	A 4	Snare Break Lo-fi 3	○		Tom Soft Dark 6	○		Cowbell Analog 80	○	
82	A# 4	Snare Hip Rim 2	○		Tom Brush 1	○		Cowbell Analog 70	○	
83	B 4	Snare Break Hard	○		Tom Brush 2	○		Metal Analog	○	
84	C 5	Snare Lo-fi	○		Tom Brush 3	○		Tambourine RX5	○	
85	C# 5	Snare Hip Rezo	○		Tom Brush 4	○		Tambourine	○	
86	D 5	Snare Hip Rim 3	○		Tom Brush 5	○		Tambourine Analog	○	
87	D# 5	Snare Gate Cut	○		Tom Brush 6	○		Bell Tree	○	
88	E 5	Snare Hip Gate	○		Tom Dry 1	○		Jingle Bell	○	
89	F 5	Snare Gate 1	○		Tom Dry 2	○		Wind Chime	○	
90	F# 5	Snare Gate 2	○		Tom Dry 3	○		Triangle Open	○	
91	G 5	Side Stick Analog 90	○		Tom Dry 4	○		Triangle Mute	○	
92	G# 5	Side Stick Analog 90 Dark	○		Tom Dry 5	○		Finger Cymbal	○	
93	A 5	Side Stick Analog 80	○		Tom Dry 6	○		Cuica Open	○	
94	A# 5	Side Stick Analog 70	○		Tom RX5 1	○		Cuica Mute	○	
95	B 5	Side Stick FM	○		Tom RX5 2	○		Guiro Long	○	
96	C 6	Side Stick FX	○		Tom RX5 3	○		Guiro Short	○	
97	C# 6	Snare Hip Rim 8	○		Tom RX5 4	○		Guiro Analog DM	○	
98	D 6	Side Stick Electro	○		Tom RX5 5	○		Guiro Analog 70	○	
99	D# 6	Side Stick	○		Tom RX5 6	○		Vibraslap	○	
100	E 6	Snare Hip Rim 1	○		Tom Ambience 1	○		Vibraslap Synth	○	
101	F 6	Side Stick RX5	○		Tom Ambience 2	○		Vibraslap Analog	○	
102	F# 6	Snare Hip Rim 4	○		Tom Ambience 3	○		Samba Whistle L	○	
103	G 6	Snare Hip Rim 5	○		Tom Ambience 4	○		Samba Whistle H	○	
104	G# 6	Snare Hip Rim 9	○		Tom Ambience 5	○		Hi Q 1	○	
105	A 6	Snare Hip Rim 7	○		Tom Ambience 6	○		Hi Q 2	○	
106	A# 6	Snare Hip Rim 6	○		Reverse Tom Synth 1 1	○		SFX Gun 1	○	
107	B 6	Log Drum 2	○		Reverse Tom Synth 1 2	○		SFX Gun 2	○	
108	C 7	Log Drum 3	○		Reverse Tom Industrial 1	○		Zap 1	○	
109	C# 7	Bongo RX5 H	○		Reverse Tom Industrial 2	○		Zap 2	○	
110	D 7	Hand Clap Analog 90	○		Reverse Tom Analog 80 1	○		Zoom	○	
111	D# 7	Hand Clap Analog 80	○		Reverse Tom Analog 80 2	○		Alarm	○	
112	E 7	Hand Clap Analog 80 Short	○		Reverse Tom Analog 80 Soft 1	○		Police	○	
113	F 7	Hand Clap Small	○		Reverse Tom Analog 80 Soft 2	○		Tape Rewind	○	
114	F# 7	Hand Clap Acoustic	○		Reverse Tom Hard 1	○		Metal Noise 1	○	
115	G 7	Hand Clap Large	○		Reverse Tom Hard 2	○		Noiseburst	○	
116	G# 7	Hand Clap RX5	○		Reverse Tom Soft 1	○		Reverse Synth Cymbal	○	
117	A 7	Hand Clap Electro	○		Reverse Tom Soft 2	○		Reverse Low Noise	○	
118	A# 7	Hand Clap Synth	○		Reverse Tom Soft Dark 1	○		Feet 2	○	
119	B 7	Noiseburst	○		Reverse Tom Soft Dark 2	○		Reverse Metal Noise 2	○	
120	C 8	Hand Clap Analog 80 Q	○		Reverse Tom Brush 1	○		Reverse Cowbell	○	
121	C# 8	Finger Snap	○		Reverse Tom Brush 2	○		Reverse Agogo	○	
122	D 8	Reverse Snare Analog 83	○		Reverse Tom Dry 1	○		Reverse Cowbell Analog 80	○	
123	D# 8	Reverse Snare Analog 91	○		Reverse Tom Dry 2	○		Reverse Tambourine	○	
124	E 8	Reverse Snare Piccolo Rim 1	○		Reverse Tom RX5 1	○		Reverse Bell Tree	○	
125	F 8	Reverse Snare Break Lo-fi 3	○		Reverse Tom RX5 2	○		Reverse Jingle Bell	○	
126	F# 8	Reverse Side Stick	○		Reverse Tom Ambience 1	○		Reverse Finger Cymbal	○	
127	G 8	Reverse Hand Clap Analog 80	○		Reverse Tom Ambience 2	○		Reverse Vibraslap Synth	○	

The overall kit sound can be varied by using the Voice Edit parameters.
All instruments are compatible with Key Off messages.

Appendix

Trigger Type

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		1			2			3			4		
Kit Type		Trigger			Trigger			Trigger			Trigger		
Note#	Note	Anlg Kit1	Key off	Alternate assign	Anlg Kit2	Key off	Alternate assign	RhBox Kit	Key off	Alternate assign	Synth Kit	Key off	Alternate assign
12	C -1	Reverse Side Stick Analog 90	○		Reverse Side Stick Analog 80	○		Reverse Side Stick Analog 70	○		Reverse Side Stick Electro	○	
13	C# -1	Reverse Tom Analog Distortion	○		Reverse Tom Analog 80 H	○		Reverse Tom Analog 80 H	○		Reverse Tom Synth 1	○	
14	D -1	Reverse Tom Analog 90	○		Reverse Tom Analog 80 L	○		Reverse Tom Analog 80 L	○		Reverse Tom Electro	○	
15	D# -1	Reverse BD Analog Rubber 2	○		Reverse BD Analog 83	○		Reverse BD Analog 81	○		Reverse BD FX Gate	○	
16	E -1	Reverse BD Analog 90	○		Reverse BD Analog 82	○		Reverse BD Analog 70	○		Reverse BD Electro	○	
17	F -1	Reverse Crash Cymbal 90	○		Reverse Crash Analog 80	○		Reverse Cymbal Synth 1	○		Reverse Cymbal Synth 1	○	
18	F# -1	Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Cymbal Synth 2	○		Reverse Ride Cymbal 90	○	
19	G -1	Reverse Snare Analog Gate	○		Reverse Snare Analog 82	○		Reverse Snare FM	○		Reverse Snare Gate 1	○	
20	G# -1	Reverse Snare Analog 90	○		Reverse Snare Analog 81	○		Reverse Snare Analog 70	○		Reverse Snare Synth 1	○	
21	A -1	Reverse Hand Clap Analog 90	○		Reverse Hand Clap Analog 80	○		Reverse Snare Clap	○		Reverse Hand Clap Electro	○	
22	A# -1	Reverse Hi-Hat Open 90	○		Reverse Hi-Hat Open Analog 81	○		Reverse Hi-Hat Open Analog 70	○		Reverse Hi-Hat Open Synth	○	
23	B -1	BD Analog Tight			BD Analog 83			BD Analog 80			BD FX Gate		
24	C 0	BD Analog Rubber 2			BD Analog 80 Long			BD Analog 80 Long			BD Analog Blip 1		
25	C# 0	Finger Snap			Finger Snap			Finger Snap			Synth Click		
26	D 0	Snare Analog 94			Snare Analog 83			Snare FM			Snare Electro		
27	D# 0	Hand Clap Analog 80			Snare Clap			Hand Clap Analog 80			Hand Clap Electro		
28	E 0	Snare Analog Gate			Snare Analog 82			Side Stick FM			Snare Gate 1		
29	F 0	Tom Analog Distortion 1			Tom Analog 80 H1			Tom Analog 80 H1			Tom Synth 1 1		
30	F# 0	Hi-Hat Closed 90 H		1	Hi-Hat Closed Analog 80 1		1	Hi-Hat Closed Analog DM		2	Hi-Hat Closed SE		1
31	G 0	Tom Analog Distortion 2			Tom Analog 80 H2			Tom Analog 80 H2			Tom Synth 1 2		
32	G# 0	Hi-Hat Open 90 H1		1	Hi-Hat Open Analog 80 2		1	Hi-Hat Open Analog DM 1		2	Hi-Hat Open SE 1		1
33	A 0	Tom Analog Distortion 3			Tom Analog 80 H3			Tom Analog 80 H3			Tom Synth 1 3		
34	A# 0	Hi-Hat Open 90 H2		1	Hi-Hat Open Analog 80		1	Hi-Hat Open Analog DM 2		2	Hi-Hat Open SE 1		1
35	B 0	BD Analog 91			BD Analog 82			BD Analog 70 L			BD Electro		
36	C 1	BD Analog 90			BD Analog 80			BD Analog 70			BD Synth 1		
37	C# 1	Side Stick Analog 90			Side Stick Analog 80			Side Stick Analog 70			Side Stick Electro		
38	D 1	Snare Analog 90			Snare Analog 81			Snare Analog 70			Snare Synth 1		
39	D# 1	Hand Clap Analog 90			Hand Clap Analog 80			Snare Clap			Hand Clap Synth		
40	E 1	Snare Analog 91			Snare Analog 80			Snare Analog DM			Snare Synth 2		
41	F 1	Tom Analog 90 1			Tom Analog 80 1			Tom Analog 80 1			Tom Electro 1 1		
42	F# 1	Hi-Hat Closed 90		2	Hi-Hat Closed Analog 81 1		2	Hi-Hat Closed Analog 70		1	Hi-Hat Closed Synth		2
43	G 1	Tom Analog 90 2			Tom Analog 80 2			Tom Analog 80 2			Tom Electro 1 2		
44	G# 1	Hi-Hat Open 90 1		2	Hi-Hat Open Analog 81 2		2	Hi-Hat Open Analog 70 1		1	Hi-Hat Open Synth 1		2
45	A 1	Tom Analog 90 3			Tom Analog 80 3			Tom Analog 80 3			Tom Electro 1 3		
46	A# 1	Hi-Hat Open 90 2		2	Hi-Hat Open Analog 81		2	Hi-Hat Open Analog 70 2		1	Hi-Hat Open Synth 1		2
47	B 1	Tom Analog 90 4			Tom Analog 80 4			Tom Analog 80 4			Tom Electro 1 4		
48	C 2	Tom Analog 90 5			Tom Analog 80 5			Tom Analog 80 5			Tom Electro 1 5		
49	C# 2	Crash Cymbal 90			Crash Analog 80			Cymbal Synth 1			Cymbal Synth 1		
50	D 2	Tom Analog 90 6			Tom Analog 80 6			Tom Analog 80 6			Tom Electro 1 6		
51	D# 2	Ride Cymbal 90			Ride Cymbal 90			Ride Cymbal 90			Ride Cymbal 90		
52	E 2	Crash Cymbal Slow Attack			Crash Cymbal Slow Attack			Cymbal Synth 2			Cymbal Synth 3		
53	F 2	Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup		
54	F# 2	Tambourine RX5			Tambourine Analog			Tambourine Analog			Tambourine Analog		
55	G 2	Splash Cymbal			Splash Cymbal			Splash Cymbal			Splash Cymbal		
56	G# 2	Cowbell			Cowbell Analog 80			Cowbell Analog 70			Cowbell Analog 70		
57	A 2	Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy		
58	A# 2	Cowbell Analog 80			Vibraslap Synth			Vibraslap Analog			Vibraslap Synth		
59	B 2	Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Heavy		
60	C 3	Bongo RX5 H			Bongo Analog H			Bongo Analog H			Bongo Analog H		
61	C# 3	Bongo RX5 L			Bongo Analog L			Bongo Analog L			Bongo Analog L		
62	D 3	Conga H Mute			Conga Analog H			Conga Analog H			Conga Analog H		
63	D# 3	Conga H Open			Conga Analog M			Conga Analog M			Conga Analog M		
64	E 3	Conga L			Conga Analog L			Conga Analog L			Conga Analog L		
65	F 3	Timbale H			Metal Analog H			Metal Analog H			Metal Analog H		
66	F# 3	Timbale L			Metal Analog L			Metal Analog L			Metal Analog L		
67	G 3	Agogo RX5 H			Glass Noise H			Glass Noise H			Glass Noise H		
68	G# 3	Agogo RX5 L			Glass Noise L			Glass Noise L			Glass Noise L		
69	A 3	Cabasa			Cabasa			Cabasa			Cabasa		
70	A# 3	Maracas			Maracas Analog 80			Maracas Analog 70			Maracas Analog 80		
71	B 3	SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○	
72	C 4	SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○	
73	C# 4	Scratch 2	○		Guiro Analog DM H	○		Guiro Analog 70	○		Guiro Analog DM H	○	
74	D 4	Scratch Stop 1	○		Guiro Analog DM L	○		Guiro Analog DM	○		Guiro Analog DM L	○	
75	D# 4	Hi Q 1 H			Claves Analog			Claves Analog			Hi Q 1 H		
76	E 4	Hi Q 1 L			Hi Q 1			Hi Q 1			Hi Q 1 L		
77	F 4	Hi Q 2			Hi Q 2			Hi Q 2			Hi Q 2		
78	F# 4	Scratch 1 H			Scratch 1			Scratch 1 H			Scratch 1 H		
79	G 4	Scratch 1 L			Scratch 1			Scratch 1 L			Scratch 1 L		
80	G# 4	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3
81	A 4	Triangle Open		3	Triangle Open		3	Triangle Open		3	Triangle Open		3
82	A# 4	Shaker Analog			Shaker Analog			Shaker Analog			Shaker Analog		
83	B 4	Jingle Bell			Jingle Bell			Jingle Bell			Jingle Bell		
84	C 5	Bell Tree			Bell Tree			Bell Tree			Bell Tree		

: No sound.

Some Voice Edit parameters will have no effect on the sound.

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		5			6			7			8		
Kit Type		Trigger			Trigger			Trigger			Trigger		
Note#	Note	SE Kit	Key off	Alternate assign	Psych Kit	Key off	Alternate assign	Acid Kit	Key off	Alternate assign	Tekno Kit	Key off	Alternate assign
12	C -1	Reverse Side Stick FX	○		Reverse Side Stick Analog 90	○		Reverse Side Stick	○		Reverse Side Stick Analog 80	○	
13	C# -1	Reverse BD Synth 2	○		Reverse Tom Synth 1	○		Reverse Tom Analog 80	○		Reverse Tom Analog 90	○	
14	D -1	Reverse Tom SFX	○		Reverse Tom Hard	○		Reverse Tom Analog 90	○		Reverse Tom Analog 80	○	
15	D# -1	Reverse Big Drum	○		Reverse BD Analog 90	○		Reverse BD RX5 2	○		Reverse BD Analog Distortion 4	○	
16	E -1	Reverse BD Hammer	○		Reverse BD Analog Hard 2	○		Reverse BD Analog 92	○		Reverse BD Analog Rubber 1	○	
17	F -1	Reverse Cymbal Synth 1	○		Reverse Crash Cymbal 90	○		Reverse Crash Cymbal 90	○		Reverse Crash Analog 80	○	
18	F# -1	Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○	
19	G -1	Reverse Metal Noise 2	○		Reverse Snare Piccolo Rim 1	○		Reverse Snare Jungle 3	○		Reverse Snare Analog 95	○	
20	G# -1	Reverse Snare Hammer	○		Reverse Snare Analog 91	○		Reverse Snare Analog 93	○		Reverse Snare Break Lo-fi 3	○	
21	A -1	Reverse FX Metal	○		Snare Roll	○		Reverse Hand Clap Small	○		Reverse Hand Clap Synth	○	
22	A# -1	Reverse Hi-Hat Open SE	○		Reverse Hi-Hat Open Heavy	○		Reverse Hi-Hat Open RX5	○		Reverse Hi-Hat Open Tek	○	
23	B -1	Big Drum			BD Analog Blip 2			BD Analog 91			BD Analog Distortion 4		
24	C 0	Punch			BD Analog 90			BD RX5 2			BD Analog Deep		
25	C# 0	Side Stick FX			Log Drum 3			Side Stick			Side Stick Analog 90		
26	D 0	Metal Noise 2			Snare Mid Rim			Snare Jungle 3			Snare Analog 95		
27	D# 0	Hand Clap Synth			Snare Ambience			Hand Clap Small			Hand Clap Analog 80		
28	E 0	Snare Synth 3			Snare Piccolo Rim 2			Snare Analog 80			Snare Analog 92		
29	F 0	Tom Synth 3 1			Tom Synth 1 1			Tom Analog 80 1			Tom Analog 90 1		
30	F# 0	Hi-Hat Closed Synth		1	Hi-Hat Closed Heavy 1		1	Hi-Hat Closed RX5		1	Hi-Hat Closed Tek		1
31	G 0	Tom Synth 3 2			Tom Synth 1 2			Tom Analog 80 2			Tom Analog 90 2		
32	G# 0	Hi-Hat Open Synth 1		1	Hi-Hat Closed Heavy 2		1	Hi-Hat Open RX5 1		1	Hi-Hat Open Tek 1		1
33	A 0	Tom Synth 3 3			Tom Synth 1 3			Tom Analog 80 3			Tom Analog 90 3		
34	A# 0	Hi-Hat Open Synth 1		1	Hi-Hat Open Heavy		1	Hi-Hat Open RX5 2		1	Hi-Hat Open Tek 2		1
35	B 0	Door Slam			BD Analog Blip 1			BD Analog 80			BD Analog Loose		
36	C 1	BD Hammer			BD Analog Hard 2			BD Analog 92			BD Analog Rubber 1		
37	C# 1	FX Metal			Side Stick Analog 90			Side Stick Analog 90			Side Stick Analog 80		
38	D 1	Snare Hammer			Snare Analog 91			Snare Analog 93			Snare Break Lo-fi 3		
39	D# 1	Metal Noise 1			Hand Clap Analog 80			Hand Clap Analog 80			Hand Clap Synth		
40	E 1	Snare Synth 4			Snare Analog Gate			Snare Analog 91			Snare FX Noise		
41	F 1	Tom SFX 1			Tom Hard 1			Tom Analog 90 1			Tom Analog 80 1		
42	F# 1	Hi-Hat Closed SE		2	Hi-Hat Closed Analog 81		2	Hi-Hat Closed Analog 81		2	Hi-Hat Closed Lo-fi		2
43	G 1	Tom SFX 2			Tom Hard 2			Tom Analog 90 2			Tom Analog 80 2		
44	G# 1	Hi-Hat Open SE 1		2	Hi-Hat Closed 90		2	Hi-Hat Closed 90		2	Hi-Hat Open Lo-fi		2
45	A 1	Tom SFX 3			Tom Hard 3			Tom Analog 90 3			Tom Analog 80 3		
46	A# 1	Hi-Hat Open SE 1		2	Hi-Hat Open 90		2	Hi-Hat Open 90		2	Hi-Hat Open Lo-fi		2
47	B 1	Tom SFX 4			Tom Hard 4			Tom Analog 90 4			Tom Analog 80 4		
48	C 2	Tom SFX 5			Tom Hard 5			Tom Analog 90 5			Tom Analog 80 5		
49	C# 2	Cymbal Synth 1			Crash Cymbal 90			Crash Cymbal 90			Crash Analog 80		
50	D 2	Tom SFX 6			Tom Hard 6			Tom Analog 90 6			Tom Analog 80 6		
51	D# 2	Ride Cymbal 90			Ride Cymbal 90			Ride Cymbal 90			Ride Cymbal 90		
52	E 2	Reverse Synth Cymbal			Gong			Crash Cymbal Slow Attack			Crash Cymbal Slow Attack		
53	F 2	Metal Noise 2			Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup		
54	F# 2	Tambourine Analog			Tambourine			Tambourine			Tambourine Analog		
55	G 2	Gunshot			Splash Cymbal			Splash Cymbal			Splash Cymbal		
56	G# 2	Cowbell Analog 70			Cowbell			Cowbell			Cowbell Analog 80		
57	A 2	Bomb			Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal 90		
58	A# 2	Vibraslap Analog			Cowbell Analog 80			Cowbell Analog 80			Vibraslap Synth		
59	B 2	Cymbal Synth 1			Ride Cymbal Heavy			Cymbal Synth 1			Cymbal Synth 1		
60	C 3	Bongo Analog H			Bongo H			Bongo RX5 H			Bongo Analog H		
61	C# 3	Bongo Analog L			Bongo L			Bongo RX5 L			Bongo Analog L		
62	D 3	Conga Analog H			Djembe Mute			Conga H Mute			Conga Analog H		
63	D# 3	Conga Analog M			Djembe Edge			Conga H Open			Conga Analog M		
64	E 3	Conga Analog L			Djembe Open			Conga L			Conga Analog L		
65	F 3	Zoom H			Tabla High			Timbale H			Metal Analog H		
66	F# 3	Zoom L			Tabla Open			Timbale L			Metal Analog L		
67	G 3	Glass Noise H			Udu Finger			Agogo RX5 H			Glass Noise H		
68	G# 3	Glass Noise L			Udu High			Agogo RX5 L			Glass Noise L		
69	A 3	Hand Clap Synth			Cabasa			Cabasa			Cabasa		
70	A# 3	Maracas			Maracas			Maracas			Maracas Analog 80		
71	B 3	SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○	
72	C 4	SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○	
73	C# 4	Scratch 2	○		Guitar Power Chord L	○		Scratch 2	○		Guiro Analog DM H	○	
74	D 4	Scratch Stop 1	○		Guitar Power Chord H	○		Scratch Stop 1	○		Guiro Analog DM L	○	
75	D# 4	Hi Q 1 H			Hi Q 1 H			Hi Q 1 H			Hi Q 1 H		
76	E 4	Hi Q 1 L			Hi Q 1 L			Hi Q 1 L			Hi Q 1 L		
77	F 4	Hi Q 2			Hi Q 2			Hi Q 2			Hi Q 2		
78	F# 4	Scratch 1 H			Digeridoo 1	○		Scratch 1 H			Scratch 1 H		
79	G 4	Scratch 1 L			Digeridoo 2	○		Scratch 1 L			Scratch 1 L		
80	G# 4	Hi-Hat Closed SE		3	Digeridoo 3	○		Triangle Mute		3	Triangle Mute		3
81	A 4	Hi-Hat Open SE		3	Finger Cymbal			Triangle Open		3	Triangle Open		3
82	A# 4	Shaker Analog			Shaker Analog			Shaker Analog			Shaker Analog		
83	B 4	Vibraslap Synth			Jingle Bell			Jingle Bell			Jingle Bell		
84	C 5	Tape Rewind			Bell Tree			Bell Tree			Bell Tree		

: No sound.

Some Voice Edit parameters will have no effect on the sound.

Appendix

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		9			10			11			12		
Kit Type		Trigger			Trigger			Trigger			Trigger		
Note#	Note	Ambnt Kit	Key off	Alternate assign	Hard Kit	Key off	Alternate assign	Hous Kit1	Key off	Alternate assign	Break Kit	Key off	Alternate assign
12	C -1	Reverse Hi Q 1	○		Reverse Snare Wood	○		Reverse Finger Snap	○		Reverse Snare Hip Rim 5	○	
13	C# -1	Reverse Tom Brush	○		Reverse Tom Industrial	○		Reverse Tom RX5	○		Reverse Tom RX5	○	
14	D -1	Reverse Tom Analog 80	○		Reverse Tom Analog Distortion	○		Reverse Tom Analog 90	○		Reverse Tom Soft	○	
15	D# -1	Reverse BD Analog Blip 1	○		Reverse Ripper	○		Reverse BD Hip Deep	○		Reverse BD Break Deep	○	
16	E -1	Reverse BD Analog 82	○		Reverse BD Analog Distortion 1	○		Reverse BD Analog 90	○		Reverse BD Break Lo-fi 1	○	
17	F -1	Reverse Cymbal Synth 1	○		Reverse Crash Cymbal 90	○		Reverse Crash Cymbal 90	○		Reverse Crash Cymbal Heavy	○	
18	F# -1	Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○	
19	G -1	Reverse Brush Slap	○		Reverse Snare Gate 2	○		Reverse Snare Hip FX L	○		Reverse Snare Dry Rim	○	
20	G# -1	Reverse Snare Analog 82	○		Reverse Snare Analog Distortion	○		Reverse Snare Analog 90	○		Reverse Snare Break Lo-fi 3	○	
21	A -1	Brush Swirl	○		Reverse Noiseburst	○		Reverse Hand Clap Analog 80	○		Snare Roll Break	○	
22	A# -1	Reverse Hi-Hat Open Analog 80	○		Reverse Hi-Hat Open Heavy	○		Reverse Hi-Hat Open 90	○		Reverse Hi-Hat Open Break		
23	B -1	BD Analog 80 H			Ripper			BD Hip Deep			BD Soft		
24	C 0	BD Analog Blip 1			BD Analog Distortion 3			BD Analog 93			BD Break Deep		
25	C# 0	Hi Q 2			Snare Wood			Finger Snap			Snare Hip Rim 5		
26	D 0	Brush Slap			Snare Gate 1			Snare Analog 95			Snare Break Lo-fi 3		
27	D# 0	Hi Q 1			Sword			Hand Clap Acoustic			Snare FX Noise		
28	E 0	Snare Analog 70			Snare Gate 2			Snare Hip FX L			Snare Dry Rim		
29	F 0	Tom Brush 1			Tom Industrial 1			Tom RX5 1			Tom RX5 1		
30	F# 0	Hi-Hat Closed Synth		1	Hi-Hat Closed Heavy		1	Hi-Hat Closed Light		1	Hi-Hat Closed Heavy		1
31	G 0	Tom Brush 2			Tom Industrial 2			Tom RX5 2			Tom RX5 2		
32	G# 0	Hi-Hat Closed SE		1	Hi-Hat Pedal Heavy		1	Hi-Hat Pedal Light		1	Hi-Hat Pedal Heavy		1
33	A 0	Tom Brush 3			Tom Industrial 3			Tom RX5 3			Tom RX5 3		
34	A# 0	Hi-Hat Open Synth		1	Hi-Hat Open Heavy		1	Hi-Hat Open Light		1	Hi-Hat Open Heavy		1
35	B 0	BD Analog 70			BD Analog Distortion 2			BD Analog 92			BD Break Lo-fi 2		
36	C 1	BD Analog 80			BD Analog Distortion 1			BD Analog 90			BD Break Lo-fi 1		
37	C# 1	Side Stick Analog 80			Snare Hip Rim 1			Side Stick Analog 90			Snare Hip Rim 2		
38	D 1	Snare Analog 82			Snare Analog Distortion			Snare Analog 90			Snare Break Lo-fi 3		
39	D# 1	Hand Clap Analog 80			Noiseburst			Hand Clap Analog 80			Snare Break Rim		
40	E 1	Snare Analog 81			Snare Noise Distortion			Snare Analog 91			Snare Break Lo-fi 2		
41	F 1	Tom Analog 80 1			Tom Analog Distortion 1			Tom Analog 90 1			Tom Soft 1		
42	F# 1	Hi-Hat Closed Analog 80		2	Hi-Hat Closed 90		2	Hi-Hat Closed Analog 81		2	Hi-Hat Closed Break		2
43	G 1	Tom Analog 80 2			Tom Analog Distortion 2			Tom Analog 90 2			Tom Soft 2		
44	G# 1	Hi-Hat Open Analog 81		2	Hi-Hat Open 90 1		2	Hi-Hat Open 90 1		2	Hi-Hat Pedal Break 1		2
45	A 1	Tom Analog 80 3			Tom Analog Distortion 3			Tom Analog 90 3			Tom Soft 3		
46	A# 1	Hi-Hat Open Analog 80		2	Hi-Hat Open 90 2		2	Hi-Hat Open 90 2		2	Hi-Hat Open Break		2
47	B 1	Tom Analog 80 4			Tom Analog Distortion 4			Tom Analog 90 4			Tom Soft 4		
48	C 2	Tom Analog 80 5			Tom Analog Distortion 5			Tom Analog 90 5			Tom Soft 5		
49	C# 2	Cymbal Synth 1			Crash Cymbal 90			Crash Cymbal 90			Crash Cymbal Heavy		
50	D 2	Tom Analog 80 6			Tom Analog Distortion 6			Tom Analog 90 6			Tom Soft 6		
51	D# 2	Ride Cymbal 90			Ride Cymbal 90			Ride Cymbal 90			Ride Cymbal Heavy		
52	E 2	Crash Cymbal Slow Attack			Chinese Cymbal			Crash Cymbal Slow Attack			Chinese Cymbal		
53	F 2	Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup		
54	F# 2	Tambourine			Tambourine Analog			Tambourine			Tambourine		
55	G 2	Splash Cymbal			Splash Cymbal			Splash Cymbal			Splash Cymbal		
56	G# 2	Cowbell Analog 80			Cowbell Analog 80			Cowbell			Cowbell		
57	A 2	Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy		
58	A# 2	Vibraslap Analog			Vibraslap			Cowbell Analog 80			Cowbell Analog 80		
59	B 2	Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Heavy		
60	C 3	Bongo H			BD & Hi-Hat Open H			Bongo H			Bongo H		
61	C# 3	Bongo L			BD & Hi-Hat Open L			Bongo L			Bongo L		
62	D 3	Conga H Mute			Metal Noise 2 H			Conga H Mute			Conga H Mute		
63	D# 3	Conga H Open			Metal Noise 2 L			Conga H Open			Conga H Open		
64	E 3	Conga L			Big Drum			Conga L			Conga L		
65	F 3	Metal Analog H			Snare Timber H			Timbale H			BD & Hi-Hat Open		
66	F# 3	Metal Analog L			Snare Timber L			Timbale L			BD & Hi-Hat Open		
67	G 3	Glass Noise H			Glass Noise H			Agogo H			Agogo H		
68	G# 3	Glass Noise L			Glass Noise L			Agogo L			Agogo L		
69	A 3	Cabasa			Cold Stab H	○		Cabasa			Cabasa		
70	A# 3	Maracas Analog 80			Cold Stab L	○		Maracas			Maracas		
71	B 3	Tweet	○		Stab Hard H	○		Stab Organ H	○		Hit Brass 1		
72	C 4	Stream			Stab Hard L	○		Stab Organ L	○		Kick & Hit	○	
73	C# 4	Thunder			Scratch 2	○		Stab Giant H	○		Scratch 2	○	
74	D 4	Wind			Scratch Stop 1	○		Stab Giant L	○		Scratch Stop 1	○	
75	D# 4	Claves Analog			Hi Q 1 H			Claves			Claves		
76	E 4	Wood Block H			Hi Q 1 L			Wood Block H			Wood Block H		
77	F 4	Wood Block L			Hi Q 2			Wood Block L			Wood Block L		
78	F# 4	Tambourine Analog			Scratch 1 H			Cuica Mute			Scratch 1 H		
79	G 4	Cowbell Analog 70			Scratch 1 L			Cuica Open			Scratch 1 L		
80	G# 4	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3
81	A 4	Triangle Open		3	Triangle Open		3	Triangle Open		3	Triangle Open		3
82	A# 4	Shaker Analog			Shaker Analog			Shaker Analog			Shaker 1		
83	B 4	Jingle Bell			Jingle Bell			Jingle Bell			Jingle Bell		
84	C 5	Wind Chime			Bell Tree			Bell Tree			Turntable Noise	on	

: No sound.

Some Voice Edit parameters will have no effect on the sound.

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		13			14			15			16		
Kit Type		Trigger			Trigger			Trigger			Trigger		
Note#	Note	Jungl Kit	Key off	Alternate assign	D&B Kit	Key off	Alternate assign	Big Kit	Key off	Alternate assign	HipHp Kit	Key off	Alternate assign
12	C -1	Reverse Snare Hip Rim 5	○		Reverse Snare Hip Rim 1	○		Reverse Side Stick	○		Reverse Snare Hip Rim 5	○	
13	C# -1	Reverse Tom Hard	○		Reverse Tom Soft	○		Reverse Tom Hard	○		Reverse Tom Hard	○	
14	D -1	Reverse Tom Soft	○		Reverse Tom Hard	○		Reverse Tom Ambience	○		Reverse Tom Soft	○	
15	D# -1	Reverse BD Analog Loose	○		Reverse BD Hip Deep	○		Reverse BD FX Gate	○		Reverse BD Hip Deep	○	
16	E -1	Reverse BD Jungle 1	○		Reverse BD D&B 2	○		Reverse BD Power Gate	○		Reverse BD R&B 1	○	
17	F -1	Reverse Crash Cymbal Heavy	○		Reverse Crash Cymbal Heavy	○		Reverse Crash Cymbal Heavy	○		Reverse Crash Cymbal Heavy	○	
18	F# -1	Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal Light	○	
19	G -1	Reverse Snare Piccolo Rim 2	○		Reverse Roll	○		Reverse Snare Gate 2	○		Reverse Snare Hip Rim 3	○	
20	G# -1	Reverse Snare Jungle 1	○		Reverse Snare D&B 1	○		Reverse Snare Gate 1	○		Reverse Snare R&B 1	○	
21	A -1	Snare Roll Break	○		Snare Roll Break	○		Snare Roll Break	○		Snare Roll Break	○	
22	A# -1	Reverse Hi-Hat	○		Reverse Hi-Hat Open Break	○		Reverse Hi-Hat Open Heavy	○		Reverse Hi-Hat Open Lo-fi	○	
23	B -1	BD Analog Loose			BD Soft			BD Room 2			BD Lo-fi		
24	C 0	BD Jungle 2			BD Hip Deep			BD FX Gate			BD Hip Deep		
25	C# 0	Snare Hip Rim 1			Bongo RX5 H			Side Stick			Snare Hip Rim 4		
26	D 0	Snare Jungle 3			Snare R&B 2			Snare Dry			Snare Hip Rim 2		
27	D# 0	Hand Clap Synth			Snare Timber			Hand Clap Acoustic			Snare Timber		
28	E 0	Snare Piccolo Rim 1			Snare D&B 3			Snare Gate 2			Snare Hip Rim 3		
29	F 0	Tom Hard 1			Tom Soft 1			Tom Hard 1			Tom Hard 1		
30	F# 0	Hi-Hat Closed Break		1	Hi-Hat Closed Light		1	Hi-Hat Closed Light		1	Hi-Hat Closed Lo-fi		1
31	G 0	Tom Hard 2			Tom Soft 2			Tom Hard 2			Tom Hard 2		
32	G# 0	Hi-Hat Pedal Break 1		1	Hi-Hat Pedal Light		1	Hi-Hat Pedal Light		1	Hi-Hat Pedal Break 1		1
33	A 0	Tom Hard 3			Tom Soft 3			Tom Hard 3			Tom Hard 3		
34	A# 0	Hi-Hat Open Break		1	Hi-Hat Open Light		1	Hi-Hat Open Light		1	Hi-Hat Open Lo-fi		1
35	B 0	BD Jungle 3			BD D&B 1			BD Room 3			BD R&B 2		
36	C 1	BD Jungle 1			BD D&B 2			BD Power Gate			BD R&B 1		
37	C# 1	Snare Hip Rim 5			Snare Hip Rim 1			Snare Hip Rim 1			Snare Hip Rim 5		
38	D 1	Snare Jungle 1			Snare D&B 1			Snare Gate 1			Snare R&B 1		
39	D# 1	Snare Clap			Noiseburst			Hand Clap Large			Snare Hip Gate		
40	E 1	Snare Jungle 2			Snare D&B 2			Snare Ambience			Snare R&B Rim		
41	F 1	Tom Soft 1			Tom Hard 1			Tom Ambience 1			Tom Soft 1		
42	F# 1	Hi-Hat Closed Light		2	Hi-Hat Closed Tight		2	Hi-Hat Closed Heavy		2	Hi-Hat Closed R&B		2
43	G 1	Tom Soft 2			Tom Hard 2			Tom Ambience 2			Tom Soft 2		
44	G# 1	Hi-Hat Pedal Light		2	Hi-Hat Pedal Break 2		2	Hi-Hat Closed Heavy		2	Hi-Hat Pedal R&B		2
45	A 1	Tom Soft 3			Tom Hard 3			Tom Ambience 3			Tom Soft 3		
46	A# 1	Hi-Hat Open Light		2	Hi-Hat Open Break		2	Hi-Hat Open Heavy		2	Hi-Hat Open R&B		2
47	B 1	Tom Soft 4			Tom Hard 4			Tom Ambience 4			Tom Soft 4		
48	C 2	Tom Soft 5			Tom Hard 5			Tom Ambience 5			Tom Soft 5		
49	C# 2	Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy		
50	D 2	Tom Soft 6			Tom Hard 6			Tom Ambience 6			Tom Soft 6		
51	D# 2	Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Light		
52	E 2	Chinese Cymbal			Chinese Cymbal			Chinese Cymbal			Chinese Cymbal		
53	F 2	Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup		
54	F# 2	Tambourine			Tambourine			Tambourine			Tambourine		
55	G 2	Splash Cymbal			Splash Cymbal			Splash Cymbal			Splash Cymbal		
56	G# 2	Cowbell			Cowbell			Cowbell			Cowbell		
57	A 2	Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy		
58	A# 2	Vibraslap			Vibraslap			Vibraslap			Cowbell Analog 80		
59	B 2	Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Light			Ride Cymbal Heavy		
60	C 3	Bongo H			Bongo H			Bongo H			Bongo H		
61	C# 3	Bongo L			Bongo L			Bongo L			Bongo L		
62	D 3	Conga H Mute			Conga H Mute			Conga H Mute			Conga H Mute		
63	D# 3	Conga H Open			Conga H Open			Conga H Open			Conga H Open		
64	E 3	Conga L			Conga L			Conga L			Conga L		
65	F 3	Tabla High			Snare D&B 4			BD & Hi-Hat Open H			BD & Hi-Hat Open H		
66	F# 3	Tabla Open			Reverse Hi-Hat			BD & Hi-Hat Open L			BD & Hi-Hat Open L		
67	G 3	Agogo H			Agogo H			Agogo H			Agogo H		
68	G# 3	Agogo L			Agogo L			Agogo L			Agogo L		
69	A 3	Cabasa			Cabasa			Cabasa			Cabasa		
70	A# 3	Maracas			Maracas			Maracas			Maracas		
71	B 3	Samba Whistle H	○		Sonar H			Samba Whistle H	○		Stab Giant H	○	
72	C 4	Samba Whistle L	○		Sonar L			Samba Whistle L	○		Stab Giant L	○	
73	C# 4	Guiro Short			Vox Bell H			Scratch 2	○		Scratch 2	○	
74	D 4	Guiro Long	○		Vox Bell L			Scratch Stop 1	○		Scratch Stop 1	○	
75	D# 4	Claves			Claves			Claves			Claves		
76	E 4	Wood Block H			Wood Block H			Wood Block H			Noiseburst		
77	F 4	Wood Block L			Wood Block L			Wood Block L			Car Crash	○	
78	F# 4	Cuica Mute		4	Cuica Mute		4	Scratch 1 H			Scratch 1 H		
79	G 4	Cuica Open		4	Cuica Open		4	Scratch 1 L			Scratch 1 L		
80	G# 4	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3
81	A 4	Triangle Open		3	Triangle Open		3	Triangle Open		3	Triangle Open		3
82	A# 4	Shaker 1			Shaker 1			Shaker 1			Shaker 1		
83	B 4	Jingle Bell			Jingle Bell			Jingle Bell			Jingle Bell		
84	C 5	Bell Tree			Bell Tree			Bell Tree			Turntable Noise	on	

: No sound.

Some Voice Edit parameters will have no effect on the sound.

Appendix

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		17			18			19			20		
Kit Type		Trigger			Trigger			Trigger			Trigger		
Note#	Note	Aco. Kit	Key off	Alternate assign	Jazz Kit	Key off	Alternate assign	Brush Kit	Key off	Alternate assign	Percs Kit	Key off	Alternate assign
12	C -1	Reverse Side Stick	○		Reverse Side Stick	○		Reverse Snare Hip Rim 5	○		Reverse Log Drum 2	○	
13	C# -1	Reverse Tom Soft	○		Reverse Tom Brush	○		Reverse Tom Soft	○		Reverse Djembe Open	○	
14	D -1	Reverse Tom Dry	○		Reverse Tom Soft	○		Reverse Tom Brush	○		Reverse Tabla Open	○	
15	D# -1	Reverse BD Dry Hard	○		Reverse BD Room 2	○		Reverse BD Room 2	○		Reverse Surdo Open	○	
16	E -1	Reverse BD Room 2	○		Reverse BD Dry Hard	○		Reverse BD Dry Hard	○		Digeridoo 3 Short	○	
17	F -1	Reverse Crash Cymbal Light	○		Reverse Crash Cymbal Light	○		Reverse Crash Cymbal Light	○		Digeridoo 3 Long	○	
18	F# -1	Reverse Ride Cymbal Heavy	○		Reverse Cymbal Loop	○		Reverse Ride Cymbal Heavy	○		Gong 1		
19	G -1	Reverse Snare Piccolo Rim 2	○		Brush Swirl	○		Brush Swirl Short			Digeridoo 2	○	
20	G# -1	Reverse Snare Mid Room	○		Reverse Snare Piccolo 1	○		Reverse Brush Slap	○		Side Stick		
21	A -1	Snare Roll	○		Snare Roll	○		Brush Swirl Long	○		Digeridoo 1	○	
22	A# -1	Reverse Hi-Hat Open Heavy	○		Reverse Hi-Hat Open Light	○		Reverse Hi-Hat Open Light	○		Sticks		
23	B -1	BD Dry			BD Soft			BD Soft			Big Drum		
24	C 0	BD Dry Hard			BD Room 2			BD Room 2			Surdo Open		5
25	C# 0	Side Stick			Finger Snap			Snare Hip Rim 4			Castanet		
26	D 0	Snare Piccolo 1			Brush Slap			Brush Slap Soft			Surdo Mute		5
27	D# 0	Hand Clap Acoustic			Hand Clap Acoustic			Hand Clap Acoustic			Hand Clap Large		
28	E 0	Snare Piccolo Rim 1			Brush Tap			Brush Tap Soft			Djembe Mute		
29	F 0	Tom Soft 1			Tom Brush 1			Tom Soft 1			Djembe Open L		
30	F# 0	Hi-Hat Closed Light		1	Hi-Hat Closed Heavy		1	Hi-Hat Closed Heavy		1	Triangle Mute		1
31	G 0	Tom Soft 2			Tom Brush 2			Tom Soft 2			Djembe Open H		
32	G# 0	Hi-Hat Pedal Light		1	Hi-Hat Pedal Heavy		1	Hi-Hat Pedal Heavy		1	Triangle Open Short		1
33	A 0	Tom Soft 3			Tom Brush 3			Tom Soft 3			Djembe Edge		
34	A# 0	Hi-Hat Open Light		1	Hi-Hat Open Heavy		1	Hi-Hat Open Heavy		1	Triangle Open		1
35	B 0	BD Room 1			BD Dry			BD Dry			Taiko Drum		
36	C 1	BD Room 2			BD Dry Hard			BD Dry Hard			Feet 1		
37	C# 1	Snare Hip Rim 1			Side Stick			Snare Hip Rim 5			Log Drum 2		
38	D 1	Snare Mid Room			Snare Piccolo 1			Brush Slap			Shekere 3		
39	D# 1	Hand Clap Large			Hand Clap Small			Hand Clap Small			Shekere 2		
40	E 1	Snare Break Rim			Snare Piccolo Rim 1			Brush Tap			Shekere 1	○	
41	F 1	Tom Dry 1			Tom Soft 1			Tom Brush 1			Tabla Open		
42	F# 1	Hi-Hat Closed Heavy		2	Hi-Hat Closed Light		2	Hi-Hat Closed Light Brush		2	Maracas Analog 80		
43	G 1	Tom Dry 2			Tom Soft 2			Tom Brush 2			Tabla Mute		
44	G# 1	Hi-Hat Pedal Heavy		2	Hi-Hat Pedal Light		2	Hi-Hat Pedal Light		2	Shaker Analog		
45	A 1	Tom Dry 3			Tom Soft 3			Tom Brush 3			Tabla High		
46	A# 1	Hi-Hat Open Heavy		2	Hi-Hat Open Light		2	Hi-Hat Open Light Brush		2	Cabasa		
47	B 1	Tom Dry 4			Tom Soft 4			Tom Brush 4			Udu Low		
48	C 2	Tom Dry 5			Tom Soft 5			Tom Brush 5			Udu High		
49	C# 2	Crash Cymbal Light			Crash Cymbal Light			Crash Cymbal Light Brush			Finger Cymbal 1		
50	D 2	Tom Dry 6			Tom Soft 6			Tom Brush 6			Udu Finger		
51	D# 2	Ride Cymbal Heavy			Ride Cymbal Heavy			Ride Cymbal Heavy Brush			Berimbau 2		2
52	E 2	Chinese Cymbal			Chinese Cymbal			Chinese Cymbal Brush			Gong 2		
53	F 2	Ride Cymbal Cup			Ride Cymbal Cup			Ride Cymbal Cup Brush			Berimbau 1		2
54	F# 2	Tambourine			Tambourine			Tambourine			Tambourine		
55	G 2	Splash Cymbal			Splash Cymbal			Splash Cymbal Brush			Gong 3		
56	G# 2	Cowbell			Cowbell			Cowbell			Cowbell		
57	A 2	Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Heavy Brush			Wind Chime		
58	A# 2	Vibraslap			Vibraslap			Vibraslap			Vibraslap		
59	B 2	Ride Cymbal Light			Ride Cymbal Light			Ride Cymbal Light Brush			Finger Cymbal 2		
60	C 3	Bongo H			Bongo H			Bongo H			Bongo H		
61	C# 3	Bongo L			Bongo L			Bongo L			Bongo L		
62	D 3	Conga H Mute			Conga H Mute			Conga H Mute			Conga H Mute		
63	D# 3	Conga H Open			Conga H Open			Conga H Open			Conga H Open		
64	E 3	Conga L			Conga L			Conga L			Conga L		
65	F 3	Timbale H			Timbale H			Timbale H			Timbale H		
66	F# 3	Timbale L			Timbale L			Timbale L			Timbale L		
67	G 3	Agogo H			Agogo H			Agogo H			Agogo H		
68	G# 3	Agogo L			Agogo L			Agogo L			Agogo L		
69	A 3	Cabasa			Cabasa			Cabasa			Cabasa		
70	A# 3	Maracas			Maracas			Maracas			Maracas		
71	B 3	Samba Whistle H	○		Samba Whistle H	○		Samba Whistle H	○		Samba Whistle H	○	
72	C 4	Samba Whistle L	○		Samba Whistle L	○		Samba Whistle L	○		Samba Whistle L	○	
73	C# 4	Guiro Short			Guiro Short			Guiro Short			Guiro Short		
74	D 4	Guiro Long	○		Guiro Long	○		Guiro Long	○		Guiro Long	○	
75	D# 4	Claves			Claves			Claves			Claves		
76	E 4	Wood Block H			Wood Block			Wood Block H			Wood Block H		
77	F 4	Wood Block L			Wood Block			Wood Block L			Wood Block L		
78	F# 4	Cuica Mute		4	Cuica Mute		4	Cuica Mute		4	Cuica Mute		4
79	G 4	Cuica Open		4	Cuica Open		4	Cuica Open		4	Cuica Open		4
80	G# 4	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3
81	A 4	Triangle Open		3	Triangle Open		3	Triangle Open		3	Triangle Open		3
82	A# 4	Shaker 1			Shaker 1			Shaker 1			Shaker 1		
83	B 4	Jingle Bell			Jingle Bell			Jingle Bell			Jingle Bell		
84	C 5	Bell Tree			Bell Tree			Bell Tree			Bell Tree		

(grey box) : No sound.

Some Voice Edit parameters will have no effect on the sound.

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		47			48			49			50		
Kit Type		Trigger			Trigger			Trigger			Trigger		
Note#	Note	RX Kit	Key off	Alternate assign	Elect Kit	Key off	Alternate assign	Hous Kit2	Key off	Alternate assign	Hip Kit2	Key off	Alternate assign
12	C -1	Reverse Side Stick RX5	○		Reverse Hi Blip	○		Reverse Side Stick Analog 90	○		Reverse Side Stick RX5	○	
13	C# -1	Reverse Tom Soft	○		Reverse Tom Synth 1	○		Reverse Tom Analog 90	○		Reverse BD Analog 83	○	
14	D -1	Reverse Tom RX5	○		Reverse Tom SFX	○		Reverse Snare Synth 2	○		Reverse Tom Soft	○	
15	D# -1	Reverse BD Room 1	○		Reverse BD Power Gate	○		Reverse Low Noise	○		Turntable Noise	○	
16	E -1	Reverse BD RX5 1	○		Reverse BD Analog 82	○		Reverse BD Analog 92	○		Reverse BD Hip Deep	○	
17	F -1	Reverse Crash Cymbal Light	○		Reverse Crash Cymbal 90	○		Reverse Synth Cymbal	○		Reverse Crash Cymbal Light	○	
18	F# -1	Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal 90	○		Reverse Cymbal Loop	○		Reverse Ride Cymbal Heavy	○	
19	G -1	Reverse Snare Mid Room	○		Reverse Snare Hip Rim 3	○		Reverse Snare Analog 91	○		Reverse Roll	○	
20	G# -1	Reverse Snare RX5 1	○		Reverse Snare Analog 82	○		Reverse Snare Analog DM	○		Reverse Snare Break Lo-fi 3	○	
21	A -1	Snare Roll	○		Reverse Hand Clap Analog 80	○		Snare Roll FX	○		Snare Roll Break		
22	A# -1	Reverse Hi-Hat Open RX5	○		Reverse Hi-Hat Open Analog 80			Reverse Hi-Hat Closed 90	○		Reverse Hi-Hat Pedal Break 1	○	
23	B -1	BD Soft			BD Power Gate			BD Analog 91			BD Analog 81		
24	C 0	BD Room 1			BD RX5 1			BD Analog 92			BD Analog 83		
25	C# 0	Snare Hip Rim 4			Hi Blip			Side Stick Analog 80			Side Stick Analog 80		
26	D 0	Snare Dry			Snare Analog 95			Snare Analog DM			Snare Analog 83		
27	D# 0	Hand Clap Small			Hand Clap RX5			Hand Clap Analog 80			Hand Clap Analog 80		
28	E 0	Snare Mid Room			Snare Hip Rim 3			Snare Analog 91			Snare Synth 2		
29	F 0	Tom Soft 1			Tom Synth 1 1			Tom Analog 90 1			Tom Synth 2 1		
30	F# 0	Hi-Hat Half RX7		1	Hi-Hat Closed Synth		1	Hi-Hat Closed Analog 80		1	Hi-Hat Closed Tek		1
31	G 0	Tom Soft 2			Tom Synth 1 2			Tom Analog 90 2			Tom Synth 2 2		
32	G# 0	Hi-Hat Pedal Light		1	Hi-Hat Open Synth 1		1	Hi-Hat Open Analog DM		1	Hi-Hat Open Analog 80		1
33	A 0	Tom Soft 3			Tom Synth 1 3			Tom Analog 90 3			Tom Synth 2 3		
34	A# 0	Hi-Hat Open Light		1	Hi-Hat Open Synth 2		1	Hi-Hat Open Analog 80		1	Hi-Hat Open Tek		1
35	B 0	BD RX5 2			BD Analog Blip 1			BD Analog 90			BD Break Deep		
36	C 1	BD RX5 1			BD Analog 81			BD Analog Hard 2			BD Hip Deep		
37	C# 1	Side Stick RX5			Side Stick Analog 80			Side Stick Analog 90			Side Stick RX5		
38	D 1	Snare RX5 1			Snare Analog 82			Snare Wood			Snare Analog 93		
39	D# 1	Hand Clap RX5			Hand Clap Analog 80			Noiseburst			Hand Clap Small		
40	E 1	Snare RX5 2			Hand Clap Electro			Zap 1			Snare Break Lo-fi 3		
41	F 1	Tom RX5 1			Tom SFX 1			Tom Electro 2 1			Tom Soft 1		
42	F# 1	Hi-Hat Closed RX5		2	Hi-Hat Closed Analog 80		2	Hi-Hat Closed 90		2	Hi-Hat Closed Break		2
43	G 1	Tom RX5 2			Tom SFX 2			Tom Electro 2 2			Tom Soft 2		
44	G# 1	Hi-Hat Open RX5 1		2	Hi-Hat Open Analog 81		2	Hi-Hat Open 90 1		2	Hi-Hat Pedal Break 1		2
45	A 1	Tom RX5 3			Tom SFX 3			Tom Electro 2 3			Tom Soft 3		
46	A# 1	Hi-Hat Open RX5 2		2	Hi-Hat Open Analog 80		2	Hi-Hat Open 90 2		2	Hi-Hat Open Lo-fi		2
47	B 1	Tom RX5 4			Tom SFX 4			Tom Electro 2 4			Tom Soft 4		
48	C 2	Tom RX5 5			Tom SFX 5			Tom Electro 2 5			Tom Soft 5		
49	C# 2	Crash Cymbal Light			Crash Cymbal 90			Crash Cymbal 90			Crash Cymbal Heavy		
50	D 2	Tom RX5 6			Tom SFX 6			Tom Electro 2 6			Tom Soft 6		
51	D# 2	Ride Cymbal Heavy			Ride Cymbal 90			Ride Cymbal 90			Ride Cymbal Heavy		
52	E 2	Chinese Cymbal			Crash Cymbal Slow Attack			Cymbal Synth 1			Chinese Cymbal		
53	F 2	Ride Cymbal Cup			Cymbal Synth 1			Ride Cymbal Cup			Ride Cymbal Cup		
54	F# 2	Tambourine RX5			Tambourine SFX			Tambourine			Tambourine RX5		
55	G 2	Splash Cymbal			Splash Cymbal			Crash Analog 80			Splash Cymbal		
56	G# 2	Cowbell RX11			Side Stick FX			Cowbell			Cowbell RX11		
57	A 2	Crash Cymbal Heavy			Crash Cymbal Heavy			Crash Cymbal Light			Crash Cymbal Light		
58	A# 2	Vibraslap			Cowbell Analog 80			Cowbell Analog 80			Cowbell Analog 80		
59	B 2	Ride Cymbal Light			Cymbal Synth 1			Ride Cymbal Heavy			Ride Cymbal Heavy		
60	C 3	Bongo RX5 H			Bongo Analog H			Bongo H			Bongo H		
61	C# 3	Bongo RX5 L			Bongo Analog L			Bongo L			Bongo L		
62	D 3	Conga H Mute			Conga Analog H			Conga H Mute			Conga H Mute		
63	D# 3	Conga H Open			Conga Analog M			Conga H Open			Conga H Open		
64	E 3	Conga L			Conga Analog L			Conga L			Conga L		
65	F 3	Timbale H			Noise FX	○		Tom Synth 1 H			Hit Brass 2		
66	F# 3	Timbale L			Telephone FX			Tom Synth 1 L			Hit Guitar		
67	G 3	Agogo RX5 H			Metal Noise 1 H			Synth Click			Agogo H		
68	G# 3	Agogo RX5 L			Metal Noise 1 L			Side Stick FX			Agogo L		
69	A 3	Shaker RX11			Hi-Hat Open Lo-fi			Cabasa			Cabasa		
70	A# 3	Maracas			Maracas			Maracas			Maracas Analog 80		
71	B 3	Samba Whistle H	○		Zap 1	○		Vox Drum 1 L	○		Hit EP L	○	
72	C 4	Samba Whistle L	○		Zap 2	○		Vox Drum 1 H	○		Hit EP H	○	
73	C# 4	Guiro Short			Zoom	○		Tambourine Analog	○		Scratch Spin	○	
74	D 4	Guiro Long	○		Reverse Synth Cymbal	○		Guiro Analog DM	○		Scratch Stop 2	○	
75	D# 4	Claves			Hi Q 1 H			Claves Analog			Claves Analog		
76	E 4	Wood Block H			Hi Q 1 L			Tambourine RX5			Door Squeak	○	
77	F 4	Wood Block L			Hi Q 2			Cowbell RX11			Hit Brass 3	○	
78	F# 4	Cuica Mute		4	Hit Hammer			Shaker RX11			Scratch BD F		
79	G 4	Cuica Open		4	Hit Orchestra			VPercussion	○		Scratch BD B	○	
80	G# 4	Triangle Mute		3	Hi-Hat Closed SE		3	Triangle Mute		3	Triangle Mute		3
81	A 4	Triangle Open		3	Hi-Hat Open SE		3	Triangle Open		3	Triangle Open		3
82	A# 4	Shaker 1			Shaker Analog			Shaker Analog			Shaker Analog		
83	B 4	Jingle Bell			FX Metal			Jingle Bell			Tambourine Low		
84	C 5	Bell Tree			Wind Chime FX			Wind Chime FX			Wind Chime		

(grey box) : No sound.

Some Voice Edit parameters will have no effect on the sound.

Appendix

Bank MSB		126			126			126			127		
Bank LSB		0			0			0			0		
Program		51			52			53			1		
Kit Type		Trigger			Trigger			Trigger			Trigger		
Note#	Note	R&B Kit	Key off	Alternate assign	Smoth Kit	Key off	Alternate assign	Human Kit	Key off	Alternate assign	GM-Stand Kit	Key off	Alternate assign
12	C -1	Reverse Snare Hip Rim 6	○		Reverse Side Stick Electro	○		Reverse Vox Go!	○				
13	C# -1	Reverse Tom Synth 1	○		Reverse Tom Analog 80	○		Reverse Vox Buh!	○				
14	D -1	Reverse BD Analog 83	○		Reverse Tom Soft	○		Reverse BD Human	○				
15	D# -1	Turntable Noise	○		Turntable Noise	○		Reverse Vox Muh!	○				
16	E -1	Reverse BD Analog 82	○		Reverse BD Analog 90	○		Reverse Vox Buh!	○				
17	F -1	Udu FX	○		Reverse Crash Cymbal Light	○		Reverse Noiseburst	○				
18	F# -1	Reverse Cymbal Loop	○		Car Crash	○		Reverse Vox Whoa!	○				
19	G -1	Reverse Snare FX Gate	○		Reverse Snare Analog 95	○		Reverse Vox Hit	○				
20	G# -1	Reverse Snare Hip Rim 3	○		Reverse Snare Analog 94	○		Reverse Vox Buh!	○				
21	A -1	Snare Roll Break	○		Snare Roll Break	○		Reverse Snare Hip FX H	○				
22	A# -1	Reverse Hi-Hat Open Tek	○		Reverse Hi-Hat Pedal Light		2	Reverse Hi-Hat Open Lo-fi	○				
23	B -1	BD Analog 83			BD Analog 80			Vox Muh!			Seq Click L		
24	C 0	BD Analog 82			BD Analog 70 L			BD Human			Seq Click H		
25	C# 0	Finger Snap			Finger Snap			Scratch Vox 1 F			Brush Tap		
26	D 0	Side Stick Electro			Snare Analog 81			Vox Hit			Brush Swirl	○	
27	D# 0	Hand Clap Synth			Hand Clap Analog 80			Scratch Vox 1 B			Brush Slap		
28	E 0	Snare Analog Gate			Snare Analog 80			Vox Tah!			Brush Tap Swirl	○	
29	F 0	Tom Synth 1 1			Tom Analog 80 1			Vox Buh! 1			Snare Roll	○	
30	F# 0	Hi-Hat Closed Tek		1	Hi-Hat Closed Analog 81		1	Scratch Vox 2 F		1	Castanet		
31	G 0	Tom Synth 1 2			Tom Analog 80 2			Vox Buh! 2			Snare Piccolo 1		
32	G# 0	Hi-Hat Open Tek 1		1	Hi-Hat Closed Analog DM		1	Scratch Vox 2 B		1	Sticks		
33	A 0	Tom Synth 1 3			Tom Analog 80 3			Vox Buh! 3			BD Soft		
34	A# 0	Hi-Hat Open Tek 2		1	Hi-Hat Open Analog 81		1	Hi-Hat Open Tek		1	Snare Mid Rim		
35	B 0	BD Soft			BD Analog 70			BD Human Deep			BD Dry		
36	C 1	BD Analog Rubber 1			BD Analog 90			Vox Buh!			BD Dry Hard		
37	C# 1	Snare Hip Rim 7			Side Stick Electro			Vox Go!			Side Stick		
38	D 1	Snare Hip Rim 3			Snare Analog 94			Vox Buh!			Snare Mid Room		
39	D# 1	Hand Clap Small			Hand Clap Small			Snare Hip FX H			Hand Clap Small		
40	E 1	Snare FX Gate			Snare Analog 95			Snare Hip Rezo			Snare Piccolo Rim 1		
41	F 1	Tom Analog 81 1			Tom Soft 1			Tom Human 1			Tom Dry 1		
42	F# 1	Hi-Hat Closed Analog 80		2	Hi-Hat Closed Light		2	Hi-Hat Open Lo-fi		2	Hi-Hat Closed Light		1
43	G 1	Tom Analog 81 2			Tom Soft 2			Tom Human 2			Tom Dry 2		
44	G# 1	Hi-Hat Closed Analog 70		2	Hi-Hat Pedal Light		2	Scratch Vox 2 B		2	Hi-Hat Pedal Light		1
45	A 1	Tom Analog 81 3			Tom Soft 3			Tom Human 3			Tom Dry 3		
46	A# 1	Hi-Hat Open Analog 80		2	Hi-Hat Open Light		2	Hi-Hat Open Lo-fi		2	Hi-Hat Open Light		1
47	B 1	Tom Analog 81 4			Tom Soft 4			Tom Human 4			Tom Dry 4		
48	C 2	Tom Analog 81 5			Tom Soft 5			Tom Human 5			Tom Dry 5		
49	C# 2	Crash Cymbal Light			Crash Cymbal Heavy			Noiseburst			Crash Cymbal Light		
50	D 2	Tom Analog 81 6			Tom Soft 6			Tom Human 6			Tom Dry 6		
51	D# 2	Ride Cymbal 90			Ride Cymbal Heavy			Vox Whoa!			Ride Cymbal Heavy		
52	E 2	Chinese Cymbal			Chinese Cymbal			Vox Hit			Chinese Cymbal		
53	F 2	Ride Cymbal Cup			Ride Cymbal Cup			Vox Go!			Ride Cymbal Cup		
54	F# 2	Tambourine			Tambourine			Scratch SD B			Tambourine		
55	G 2	Splash Cymbal			Splash Cymbal			Vox Ahhh!			Splash Cymbal		
56	G# 2	Cowbell			Cowbell			Vox Drum 1			Cowbell		
57	A 2	Crash Cymbal 90			Crash Cymbal Light			Cymbal Synth 2			Crash Cymbal Heavy		
58	A# 2	Cowbell Analog 80			Cowbell Analog 80			Vox Drum 2			Vibraslap		
59	B 2	Ride Cymbal Heavy			Ride Cymbal 90			Vocd Ahh			Ride Cymbal Light		
60	C 3	Bongo H			Bongo Analog H			Bongo H			Bongo H		
61	C# 3	Bongo L			Bongo Analog L			Bongo L			Bongo L		
62	D 3	Conga H Mute			Conga H Mute			Conga H Mute			Conga H Mute		
63	D# 3	Conga H Open			Conga H Open			Conga H Open			Conga H Open		
64	E 3	Conga L			Conga L			Conga L			Conga L		
65	F 3	Synth Bubble H			Scratch Vox 1 F			Vox Yo!			Timbale H		
66	F# 3	Synth Bubble L			Scratch Vox 1 B			Vox Huh!			Timbale L		
67	G 3	Agogo H			Metal Analog H			Agogo H			Agogo H		
68	G# 3	Agogo L			Metal Analog L			Agogo L			Agogo L		
69	A 3	Shaker Analog			Cabasa			Cabasa			Cabasa		
70	A# 3	Maracas			Maracas			Maracas			Maracas		
71	B 3	Vox Drum 1 H	○		Hit EP L	○		Reverse Vox Whoa!	○		Samba Whistle H	○	
72	C 4	Vox Drum 1 L	○		Hit EP H	○		Reverse Vox Muh!	○		Samba Whistle L	○	
73	C# 4	Hi Q 1	○		Vox Pad L	○		Scratch 2	○		Guiro Short		
74	D 4	Hi Q 2			Vox Pad H	○		Scratch Stop 1	○		Guiro Long	○	
75	D# 4	Claves Analog			Claves Analog			Reverse Scratch Stop 1			Claves		
76	E 4	Vibraslap Synth			Hand Clap Electro			Scratch 4 B			Wood Block H		
77	F 4	Scratch Spin	○		Scratch Stop 2	○		Reverse Scratch Stop 2	○		Wood Block L		
78	F# 4	Scratch 3 B	○		Finger Cymbal			Scratch 1 H			Cuica Mute		
79	G 4	Scratch 3 F	○		Vibraslap			Scratch 1 L			Cuica Open		
80	G# 4	Triangle Mute		3	Triangle Mute		3	Triangle Mute		3	Triangle Mute		2
81	A 4	Triangle Open		3	Triangle Open		3	Triangle Open		3	Triangle Open		2
82	A# 4	Shaker 1			Shaker 1			Shaker 1			Shaker 1		
83	B 4	Tambourine			Jingle Bell			Jingle Bell			Jingle Bell		
84	C 5	Wind Chime FX			Wind Chime			Turntable Noise	○		Bell Tree		

(shaded box) : No sound.

Some Voice Edit parameters will have no effect on the sound.

Note on/off type

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		27			28			29			30		
Kit Type		Note on/off			Note on/off			Note on/off			Note on/off		
Note#	Note	AnlgKt1N	Key off	Alternate assign	AnlgKt2N	Key off	Alternate assign	RhBoxKtN	Key off	Alternate assign	SynthKtN	Key off	Alternate assign
12	C -1	Reverse Side Stick Analog 90	○		Reverse Side Stick Analog 80	○		Reverse Side Stick Analog 70	○		Reverse Side Stick Electro	○	
13	C# -1	Reverse Tom Analog Distortion	○		Reverse Tom Analog 80 H	○		Reverse Tom Analog 80 H	○		Reverse Tom Synth 1	○	
14	D -1	Reverse Tom Analog 90	○		Reverse Tom Analog 80 L	○		Reverse Tom Analog 80 L	○		Reverse Tom Electro	○	
15	D# -1	Reverse BD Analog Rubber 2	○		Reverse BD Analog 83	○		Reverse BD Analog 81	○		Reverse BD FX Gate	○	
16	E -1	Reverse BD Analog 90	○		Reverse BD Analog 82	○		Reverse BD Analog 70	○		Reverse BD Electro	○	
17	F -1	Reverse Crash Cymbal 90	○		Reverse Crash Analog 80	○		Reverse Cymbal Synth 1	○		Reverse Cymbal Synth 1	○	
18	F# -1	Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Cymbal Synth 2	○		Reverse Ride Cymbal 90	○	
19	G -1	Reverse Snare Analog Gate	○		Reverse Snare Analog 82	○		Reverse Snare FM	○		Reverse Snare Gate 1	○	
20	G# -1	Reverse Snare Analog 90	○		Reverse Snare Analog 81	○		Reverse Snare Analog 70	○		Reverse Snare Synth 1	○	
21	A -1	Reverse Hand Clap Analog 90	○		Reverse Hand Clap Analog 80	○		Reverse Snare Clap	○		Reverse Hand Clap Electro	○	
22	A# -1	Reverse Hi-Hat Open 90	○		Reverse Hi-Hat Open Analog 81	○		Reverse Hi-Hat Open Analog 70	○		Reverse Hi-Hat Open Synth	○	
23	B -1	BD Analog Tight	○		BD Analog 83	○		BD Analog 80	○		BD FX Gate	○	
24	C 0	BD Analog Rubber 2	○		BD Analog 80 Long	○		BD Analog 80 Long	○		BD Analog Blip 1	○	
25	C# 0	Finger Snap	○		Finger Snap	○		Finger Snap	○		Synth Click	○	
26	D 0	Snare Analog 94	○		Snare Analog 83	○		Snare FM	○		Snare Electro	○	
27	D# 0	Hand Clap Analog 80	○		Snare Clap	○		Hand Clap Analog 80	○		Hand Clap Electro	○	
28	E 0	Snare Analog Gate	○		Snare Analog 82	○		Side Stick FM	○		Snare Gate 1	○	
29	F 0	Tom Analog Distortion 1	○		Tom Analog 80 H1	○		Tom Analog 80 H1	○		Tom Synth 1 1	○	
30	F# 0	Hi-Hat Closed 90 H	○		Hi-Hat Closed Analog 80 1	○		Hi-Hat Closed Analog DM	○		Hi-Hat Closed SE	○	
31	G 0	Tom Analog Distortion 2	○		Tom Analog 80 H2	○		Tom Analog 80 H2	○		Tom Synth 1 2	○	
32	G# 0	Hi-Hat Open 90 H1	○		Hi-Hat Open Analog 80 2	○		Hi-Hat Open Analog DM 1	○		Hi-Hat Open SE 1	○	
33	A 0	Tom Analog Distortion 3	○		Tom Analog 80 H3	○		Tom Analog 80 H3	○		Tom Synth 1 3	○	
34	A# 0	Hi-Hat Open 90 H2	○		Hi-Hat Open Analog 80	○		Hi-Hat Open Analog DM 2	○		Hi-Hat Open SE 1	○	
35	B 0	BD Analog 91	○		BD Analog 82	○		BD Analog 70 L	○		BD Electro	○	
36	C 1	BD Analog 90	○		BD Analog 80	○		BD Analog 70	○		BD Synth 1	○	
37	C# 1	Side Stick Analog 90	○		Side Stick Analog 80	○		Side Stick Analog 70	○		Side Stick Electro	○	
38	D 1	Snare Analog 90	○		Snare Analog 81	○		Snare Analog 70	○		Snare Synth 1	○	
39	D# 1	Hand Clap Analog 90	○		Hand Clap Analog 80	○		Snare Clap	○		Hand Clap Synth	○	
40	E 1	Snare Analog 91	○		Snare Analog 80	○		Snare Analog DM	○		Snare Synth 2	○	
41	F 1	Tom Analog 90 1	○		Tom Analog 80 1	○		Tom Analog 80 1	○		Tom Electro 1 1	○	
42	F# 1	Hi-Hat Closed 90	○		Hi-Hat Closed Analog 81 1	○		Hi-Hat Closed Analog 70	○		Hi-Hat Closed Synth	○	
43	G 1	Tom Analog 90 2	○		Tom Analog 80 2	○		Tom Analog 80 2	○		Tom Electro 1 2	○	
44	G# 1	Hi-Hat Open 90 1	○		Hi-Hat Open Analog 81 2	○		Hi-Hat Open Analog 70 1	○		Hi-Hat Open Synth 1	○	
45	A 1	Tom Analog 90 3	○		Tom Analog 80 3	○		Tom Analog 80 3	○		Tom Electro 1 3	○	
46	A# 1	Hi-Hat Open 90 2	○		Hi-Hat Open Analog 81	○		Hi-Hat Open Analog 70 2	○		Hi-Hat Open Synth 1	○	
47	B 1	Tom Analog 90 4	○		Tom Analog 80 4	○		Tom Analog 80 4	○		Tom Electro 1 4	○	
48	C 2	Tom Analog 90 5	○		Tom Analog 80 5	○		Tom Analog 80 5	○		Tom Electro 1 5	○	
49	C# 2	Crash Cymbal 90	○		Crash Analog 80	○		Cymbal Synth 1	○		Cymbal Synth 1	○	
50	D 2	Tom Analog 90 6	○		Tom Analog 80 6	○		Tom Analog 80 6	○		Tom Electro 1 6	○	
51	D# 2	Ride Cymbal 90	○		Ride Cymbal 90	○		Ride Cymbal 90	○		Ride Cymbal 90	○	
52	E 2	Crash Cymbal Slow Attack	○		Crash Cymbal Slow Attack	○		Cymbal Synth 2	○		Cymbal Synth 3	○	
53	F 2	Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○	
54	F# 2	Tambourine RX5	○		Tambourine Analog	○		Tambourine Analog	○		Tambourine Analog	○	
55	G 2	Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○	
56	G# 2	Cowbell	○		Cowbell Analog 80	○		Cowbell Analog 70	○		Cowbell Analog 70	○	
57	A 2	Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○	
58	A# 2	Cowbell Analog 80	○		Vibraslap Synth	○		Vibraslap Analog	○		Vibraslap Synth	○	
59	B 2	Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal Heavy	○	
60	C 3	Bongo RX5 H	○		Bongo Analog H	○		Bongo Analog H	○		Bongo Analog H	○	
61	C# 3	Bongo RX5 L	○		Bongo Analog L	○		Bongo Analog L	○		Bongo Analog L	○	
62	D 3	Conga H Mute	○		Conga Analog H	○		Conga Analog H	○		Conga Analog H	○	
63	D# 3	Conga H Open	○		Conga Analog M	○		Conga Analog M	○		Conga Analog M	○	
64	E 3	Conga L	○		Conga Analog L	○		Conga Analog L	○		Conga Analog L	○	
65	F 3	Timbale H	○		Metal Analog H	○		Metal Analog H	○		Metal Analog H	○	
66	F# 3	Timbale L	○		Metal Analog L	○		Metal Analog L	○		Metal Analog L	○	
67	G 3	Agogo RX5 H	○		Glass Noise H	○		Glass Noise H	○		Glass Noise H	○	
68	G# 3	Agogo RX5 L	○		Glass Noise L	○		Glass Noise L	○		Glass Noise L	○	
69	A 3	Cabasa	○		Cabasa	○		Cabasa	○		Cabasa	○	
70	A# 3	Maracas	○		Maracas Analog 80	○		Maracas Analog 70	○		Maracas Analog 80	○	
71	B 3	SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○	
72	C 4	SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○	
73	C# 4	Scratch 2	○		Guiro Analog DM H	○		Guiro Analog 70	○		Guiro Analog DM H	○	
74	D 4	Scratch Stop 1	○		Guiro Analog DM L	○		Guiro Analog DM	○		Guiro Analog DM L	○	
75	D# 4	Hi Q 1 H	○		Claves Analog	○		Claves Analog	○		Hi Q 1 H	○	
76	E 4	Hi Q 1 L	○		Hi Q 1	○		Hi Q 1	○		Hi Q 1 L	○	
77	F 4	Hi Q 2	○		Hi Q 2	○		Hi Q 2	○		Hi Q 2	○	
78	F# 4	Scratch 1 H	○		Scratch 1	○		Scratch 1 H	○		Scratch 1 H	○	
79	G 4	Scratch 1 L	○		Scratch 1	○		Scratch 1 L	○		Scratch 1 L	○	
80	G# 4	Triangle Mute	○		Triangle Mute	○		Triangle Mute	○		Triangle Mute	○	
81	A 4	Triangle Open	○		Triangle Open	○		Triangle Open	○		Triangle Open	○	
82	A# 4	Shaker Analog	○		Shaker Analog	○		Shaker Analog	○		Shaker Analog	○	
83	B 4	Jingle Bell	○		Jingle Bell	○		Jingle Bell	○		Jingle Bell	○	
84	C 5	Bell Tree	○		Bell Tree	○		Bell Tree	○		Bell Tree	○	

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		31			32			33			34		
Kit Type		Note on/off			Note on/off			Note on/off			Note on/off		
Note#	Note	SEKitN	Key off	Alternate assign	PsychKtN	Key off	Alternate assign	AcidKitN	Key off	Alternate assign	TeknoKtN	Key off	Alternate assign
12	C -1	Reverse Side Stick FX	○		Reverse Side Stick Analog 90	○		Reverse Side Stick	○		Reverse Side Stick Analog 80	○	
13	C# -1	Reverse BD Synth 2	○		Reverse Tom Synth 1	○		Reverse Tom Analog 80	○		Reverse Tom Analog 90	○	
14	D -1	Reverse Tom SFX	○		Reverse Tom Hard	○		Reverse Tom Analog 90	○		Reverse Tom Analog 80	○	
15	D# -1	Reverse Big Drum	○		Reverse BD Analog 90	○		Reverse BD RX5 2	○		Reverse BD Analog Distortion 4	○	
16	E -1	Reverse BD Hammer	○		Reverse BD Analog Hard 2	○		Reverse BD Analog 92	○		Reverse BD Analog Rubber 1	○	
17	F -1	Reverse Cymbal Synth 1	○		Reverse Crash Cymbal 90	○		Reverse Crash Cymbal 90	○		Reverse Crash Analog 80	○	
18	F# -1	Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○	
19	G -1	Reverse Metal Noise 2	○		Reverse Snare Piccolo Rim 1	○		Reverse Snare Jungle 3	○		Reverse Snare Analog 95	○	
20	G# -1	Reverse Snare Hammer	○		Reverse Snare Analog 91	○		Reverse Snare Analog 93	○		Reverse Snare Break Lo-fi 3	○	
21	A -1	Reverse FX Metal	○		Snare Roll	○		Reverse Hand Clap Small	○		Reverse Hand Clap Synth	○	
22	A# -1	Reverse Hi-Hat Open SE	○		Reverse Hi-Hat Open Heavy	○		Reverse Hi-Hat Open RX5	○		Reverse Hi-Hat Open Tek	○	
23	B -1	Big Drum	○		BD Analog Blip 2	○		BD Analog 91	○		BD Analog Distortion 4	○	
24	C 0	Punch	○		BD Analog 90	○		BD RX5 2	○		BD Analog Deep	○	
25	C# 0	Side Stick FX	○		Log Drum 3	○		Side Stick	○		Side Stick Analog 90	○	
26	D 0	Metal Noise 2	○		Snare Mid Rim	○		Snare Jungle 3	○		Snare Analog 95	○	
27	D# 0	Hand Clap Synth	○		Snare Ambience	○		Hand Clap Small	○		Hand Clap Analog 80	○	
28	E 0	Snare Synth 3	○		Snare Piccolo Rim 2	○		Snare Analog 80	○		Snare Analog 92	○	
29	F 0	Tom Synth 3 1	○		Tom Synth 1 1	○		Tom Analog 80 1	○		Tom Analog 90 1	○	
30	F# 0	Hi-Hat Closed Synth	○		Hi-Hat Closed Heavy 1	○		Hi-Hat Closed RX5	○		Hi-Hat Closed Tek	○	
31	G 0	Tom Synth 3 2	○		Tom Synth 1 2	○		Tom Analog 80 2	○		Tom Analog 90 2	○	
32	G# 0	Hi-Hat Open Synth 1	○		Hi-Hat Closed Heavy 2	○		Hi-Hat Open RX5 1	○		Hi-Hat Open Tek 1	○	
33	A 0	Tom Synth 3 3	○		Tom Synth 1 3	○		Tom Analog 80 3	○		Tom Analog 90 3	○	
34	A# 0	Hi-Hat Open Synth 1	○		Hi-Hat Open Heavy	○		Hi-Hat Open RX5 2	○		Hi-Hat Open Tek 2	○	
35	B 0	Door Slam	○		BD Analog Blip 1	○		BD Analog 80	○		BD Analog Loose	○	
36	C 1	BD Hammer	○		BD Analog Hard 2	○		BD Analog 92	○		BD Analog Rubber 1	○	
37	C# 1	FX Metal	○		Side Stick Analog 90	○		Side Stick Analog 90	○		Side Stick Analog 80	○	
38	D 1	Snare Hammer	○		Snare Analog 91	○		Snare Analog 93	○		Snare Break Lo-fi 3	○	
39	D# 1	Metal Noise 1	○		Hand Clap Analog 80	○		Hand Clap Analog 80	○		Hand Clap Synth	○	
40	E 1	Snare Synth 4	○		Snare Analog Gate	○		Snare Analog 91	○		Snare FX Noise	○	
41	F 1	Tom SFX 1	○		Tom Hard 1	○		Tom Analog 90 1	○		Tom Analog 80 1	○	
42	F# 1	Hi-Hat Closed SE	○		Hi-Hat Closed Analog 81	○		Hi-Hat Closed Analog 81	○		Hi-Hat Closed Lo-fi	○	
43	G 1	Tom SFX 2	○		Tom Hard 2	○		Tom Analog 90 2	○		Tom Analog 80 2	○	
44	G# 1	Hi-Hat Open SE 1	○		Hi-Hat Closed 90	○		Hi-Hat Closed 90	○		Hi-Hat Open Lo-fi	○	
45	A 1	Tom SFX 3	○		Tom Hard 3	○		Tom Analog 90 3	○		Tom Analog 80 3	○	
46	A# 1	Hi-Hat Open SE 1	○		Hi-Hat Open 90	○		Hi-Hat Open 90	○		Hi-Hat Open Lo-fi	○	
47	B 1	Tom SFX 4	○		Tom Hard 4	○		Tom Analog 90 4	○		Tom Analog 80 4	○	
48	C 2	Tom SFX 5	○		Tom Hard 5	○		Tom Analog 90 5	○		Tom Analog 80 5	○	
49	C# 2	Cymbal Synth 1	○		Crash Cymbal 90	○		Crash Cymbal 90	○		Crash Analog 80	○	
50	D 2	Tom SFX 6	○		Tom Hard 6	○		Tom Analog 90 6	○		Tom Analog 80 6	○	
51	D# 2	Ride Cymbal 90	○		Ride Cymbal 90	○		Ride Cymbal 90	○		Ride Cymbal 90	○	
52	E 2	Reverse Synth Cymbal	○		Gong	○		Crash Cymbal Slow Attack	○		Crash Cymbal Slow Attack	○	
53	F 2	Metal Noise 2	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○	
54	F# 2	Tambourine Analog	○		Tambourine	○		Tambourine	○		Tambourine Analog	○	
55	G 2	Gunshot	○		Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○	
56	G# 2	Cowbell Analog 70	○		Cowbell	○		Cowbell	○		Cowbell Analog 80	○	
57	A 2	Bomb	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal 90	○	
58	A# 2	Vibraslap Analog	○		Cowbell Analog 80	○		Cowbell Analog 80	○		Vibraslap Synth	○	
59	B 2	Cymbal Synth 1	○		Ride Cymbal Heavy	○		Cymbal Synth 1	○		Cymbal Synth 1	○	
60	C 3	Bongo Analog H	○		Bongo H	○		Bongo RX5 H	○		Bongo Analog H	○	
61	C# 3	Bongo Analog L	○		Bongo L	○		Bongo RX5 L	○		Bongo Analog L	○	
62	D 3	Conga Analog H	○		Djembe Mute	○		Conga H Mute	○		Conga Analog H	○	
63	D# 3	Conga Analog M	○		Djembe Edge	○		Conga H Open	○		Conga Analog M	○	
64	E 3	Conga Analog L	○		Djembe Open	○		Conga L	○		Conga Analog L	○	
65	F 3	Zoom H	○		Tabla High	○		Timbale H	○		Metal Analog H	○	
66	F# 3	Zoom L	○		Tabla Open	○		Timbale L	○		Metal Analog L	○	
67	G 3	Glass Noise H	○		Udu Finger	○		Agogo RX5 H	○		Glass Noise H	○	
68	G# 3	Glass Noise L	○		Udu High	○		Agogo RX5 L	○		Glass Noise L	○	
69	A 3	Hand Clap Synth	○		Cabasa	○		Cabasa	○		Cabasa	○	
70	A# 3	Maracas	○		Maracas	○		Maracas	○		Maracas Analog 80	○	
71	B 3	SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○		SFX Gun 2	○	
72	C 4	SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○		SFX Gun 1	○	
73	C# 4	Scratch 2	○		Guitar Power Chord L	○		Scratch 2	○		Guiro Analog DM H	○	
74	D 4	Scratch Stop 1	○		Guitar Power Chord H	○		Scratch Stop 1	○		Guiro Analog DM L	○	
75	D# 4	Hi Q 1 H	○		Hi Q 1 H	○		Hi Q 1 H	○		Hi Q 1 H	○	
76	E 4	Hi Q 1 L	○		Hi Q 1 L	○		Hi Q 1 L	○		Hi Q 1 L	○	
77	F 4	Hi Q 2	○		Hi Q 2	○		Hi Q 2	○		Hi Q 2	○	
78	F# 4	Scratch 1 H	○		Digeridoo 1	○		Scratch 1 H	○		Scratch 1 H	○	
79	G 4	Scratch 1 L	○		Digeridoo 2	○		Scratch 1 L	○		Scratch 1 L	○	
80	G# 4	Hi-Hat Closed SE	○		Digeridoo 3	○		Triangle Mute	○		Triangle Mute	○	
81	A 4	Hi-Hat Open SE	○		Finger Cymbal	○		Triangle Open	○		Triangle Open	○	
82	A# 4	Shaker Analog	○		Shaker Analog	○		Shaker Analog	○		Shaker Analog	○	
83	B 4	Vibraslap Synth	○		Jingle Bell	○		Jingle Bell	○		Jingle Bell	○	
84	C 5	Tape Rewind	○		Bell Tree			Bell Tree	○		Bell Tree	○	

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		35			36			37			38		
Kit Type		Note on/off			Note on/off			Note on/off			Note on/off		
Note#	Note	AmbntKtN	Key off	Alternate assign	HardKitN	Key off	Alternate assign	HousKt1N	Key off	Alternate assign	BreakKtN	Key off	Alternate assign
12	C -1	Reverse Hi Q 1	○		Reverse Snare Wood	○		Reverse Finger Snap	○		Reverse Snare Hip Rim 5	○	
13	C# -1	Reverse Tom Brush	○		Reverse Tom Industrial	○		Reverse Tom RX5	○		Reverse Tom RX5	○	
14	D -1	Reverse Tom Analog 80	○		Reverse Tom Analog Distortion	○		Reverse Tom Analog 90	○		Reverse Tom Soft	○	
15	D# -1	Reverse BD Analog Blip 1	○		Reverse Ripper	○		Reverse BD Hip Deep	○		Reverse BD Break Deep	○	
16	E -1	Reverse BD Analog 82	○		Reverse BD Analog Distortion 1	○		Reverse BD Analog 90	○		Reverse BD Break Lo-fi 1	○	
17	F -1	Reverse Cymbal Synth 1	○		Reverse Crash Cymbal 90	○		Reverse Crash Cymbal 90	○		Reverse Crash Cymbal Heavy	○	
18	F# -1	Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○		Reverse Ride Cymbal 90	○	
19	G -1	Reverse Brush Slap	○		Reverse Snare Gate 2	○		Reverse Snare Hip FX L	○		Reverse Snare Dry Rim	○	
20	G# -1	Reverse Snare Analog 82	○		Reverse Snare Analog Distortion	○		Reverse Snare Analog 90	○		Reverse Snare Break Lo-fi 3	○	
21	A -1	Brush Swirl	○		Reverse Noiseburst	○		Reverse Hand Clap Analog 80	○		Snare Roll Break	○	
22	A# -1	Reverse Hi-Hat Open Analog 80	○		Reverse Hi-Hat Open Heavy	○		Reverse Hi-Hat Open 90	○		Reverse Hi-Hat Open Break	○	
23	B -1	BD Analog 80 H	○		Ripper	○		BD Hip Deep	○		BD Soft	○	
24	C 0	BD Analog Blip 1	○		BD Analog Distortion 3	○		BD Analog 93	○		BD Break Deep	○	
25	C# 0	Hi Q 2	○		Snare Wood	○		Finger Snap	○		Snare Hip Rim 5	○	
26	D 0	Brush Slap	○		Snare Gate 1	○		Snare Analog 95	○		Snare Break Lo-fi 3	○	
27	D# 0	Hi Q 1	○		Sword	○		Hand Clap Acoustic	○		Snare FX Noise	○	
28	E 0	Snare Analog 70	○		Snare Gate 2	○		Snare Hip FX L	○		Snare Dry Rim	○	
29	F 0	Tom Brush 1	○		Tom Industrial 1	○		Tom RX5 1	○		Tom RX5 1	○	
30	F# 0	Hi-Hat Closed Synth	○		Hi-Hat Closed Heavy	○		Hi-Hat Closed Light	○		Hi-Hat Closed Heavy	○	
31	G 0	Tom Brush 2	○		Tom Industrial 2	○		Tom RX5 2	○		Tom RX5 2	○	
32	G# 0	Hi-Hat Closed SE	○		Hi-Hat Pedal Heavy	○		Hi-Hat Pedal Light	○		Hi-Hat Pedal Heavy	○	
33	A 0	Tom Brush 3	○		Tom Industrial 3	○		Tom RX5 3	○		Tom RX5 3	○	
34	A# 0	Hi-Hat Open Synth	○		Hi-Hat Open Heavy	○		Hi-Hat Open Light	○		Hi-Hat Open Heavy	○	
35	B 0	BD Analog 70	○		BD Analog Distortion 2	○		BD Analog 92	○		BD Break Lo-fi 2	○	
36	C 1	BD Analog 80	○		BD Analog Distortion 1	○		BD Analog 90	○		BD Break Lo-fi 1	○	
37	C# 1	Side Stick Analog 80	○		Snare Hip Rim 1	○		Side Stick Analog 90	○		Snare Hip Rim 2	○	
38	D 1	Snare Analog 82	○		Snare Analog Distortion	○		Snare Analog 90	○		Snare Break Lo-fi 3	○	
39	D# 1	Hand Clap Analog 80	○		Noiseburst	○		Hand Clap Analog 80	○		Snare Break Rim	○	
40	E 1	Snare Analog 81	○		Snare Noise Distortion	○		Snare Analog 91	○		Snare Break Lo-fi 2	○	
41	F 1	Tom Analog 80 1	○		Tom Analog Distortion 1	○		Tom Analog 90 1	○		Tom Soft 1	○	
42	F# 1	Hi-Hat Closed Analog 80	○		Hi-Hat Closed 90	○		Hi-Hat Closed Analog 81	○		Hi-Hat Closed Break	○	
43	G 1	Tom Analog 80 2	○		Tom Analog Distortion 2	○		Tom Analog 90 2	○		Tom Soft 2	○	
44	G# 1	Hi-Hat Open Analog 81	○		Hi-Hat Open 90 1	○		Hi-Hat Open 90 1	○		Hi-Hat Pedal Break 1	○	
45	A 1	Tom Analog 80 3	○		Tom Analog Distortion 3	○		Tom Analog 90 3	○		Tom Soft 3	○	
46	A# 1	Hi-Hat Open Analog 80	○		Hi-Hat Open 90 2	○		Hi-Hat Open 90 2	○		Hi-Hat Open Break	○	
47	B 1	Tom Analog 80 4	○		Tom Analog Distortion 4	○		Tom Analog 90 4	○		Tom Soft 4	○	
48	C 2	Tom Analog 80 5	○		Tom Analog Distortion 5	○		Tom Analog 90 5	○		Tom Soft 5	○	
49	C# 2	Cymbal Synth 1	○		Crash Cymbal 90	○		Crash Cymbal 90	○		Crash Cymbal Heavy	○	
50	D 2	Tom Analog 80 6	○		Tom Analog Distortion 6	○		Tom Analog 90 6	○		Tom Soft 6	○	
51	D# 2	Ride Cymbal 90	○		Ride Cymbal 90	○		Ride Cymbal 90	○		Ride Cymbal Heavy	○	
52	E 2	Crash Cymbal Slow Attack	○		Chinese Cymbal	○		Crash Cymbal Slow Attack	○		Chinese Cymbal	○	
53	F 2	Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○	
54	F# 2	Tambourine	○		Tambourine Analog	○		Tambourine	○		Tambourine	○	
55	G 2	Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○	
56	G# 2	Cowbell Analog 80	○		Cowbell Analog 80	○		Cowbell	○		Cowbell	○	
57	A 2	Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○	
58	A# 2	Vibraslap Analog	○		Vibraslap	○		Cowbell Analog 80	○		Cowbell Analog 80	○	
59	B 2	Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal Heavy	○	
60	C 3	Bongo H	○		BD & Hi-Hat Open H	○		Bongo H	○		Bongo H	○	
61	C# 3	Bongo L	○		BD & Hi-Hat Open L	○		Bongo L	○		Bongo L	○	
62	D 3	Conga H Mute	○		Metal Noise 2 H	○		Conga H Mute	○		Conga H Mute	○	
63	D# 3	Conga H Open	○		Metal Noise 2 L	○		Conga H Open	○		Conga H Open	○	
64	E 3	Conga L	○		Big Drum	○		Conga L	○		Conga L	○	
65	F 3	Metal Analog H	○		Snare Timber H	○		Timbale H	○		BD & Hi-Hat Open	○	
66	F# 3	Metal Analog L	○		Snare Timber L	○		Timbale L	○		BD & Hi-Hat Open	○	
67	G 3	Glass Noise H	○		Glass Noise H	○		Agogo H	○		Agogo H	○	
68	G# 3	Glass Noise L	○		Glass Noise L	○		Agogo L	○		Agogo L	○	
69	A 3	Cabasa	○		Cold Stab H	○		Cabasa	○		Cabasa	○	
70	A# 3	Maracas Analog 80	○		Cold Stab L	○		Maracas	○		Maracas	○	
71	B 3	Tweet	○		Stab Hard H	○		Stab Organ H	○		Hit Brass 1	○	
72	C 4	Stream	○		Stab Hard L	○		Stab Organ L	○		Kick & Hit	○	
73	C# 4	Thunder	○		Scratch 2	○		Stab Giant H	○		Scratch 2	○	
74	D 4	Wind	○		Scratch Stop 1	○		Stab Giant L	○		Scratch Stop 1	○	
75	D# 4	Claves Analog	○		Hi Q 1 H	○		Claves	○		Claves	○	
76	E 4	Wood Block H	○		Hi Q 1 L	○		Wood Block H	○		Wood Block H	○	
77	F 4	Wood Block L	○		Hi Q 2	○		Wood Block L	○		Wood Block L	○	
78	F# 4	Tambourine Analog	○		Scratch 1 H	○		Cuica Mute	○		Scratch 1 H	○	
79	G 4	Cowbell Analog 70	○		Scratch 1 L	○		Cuica Open	○		Scratch 1 L	○	
80	G# 4	Triangle Mute	○		Triangle Mute	○		Triangle Mute	○		Triangle Mute	○	
81	A 4	Triangle Open	○		Triangle Open	○		Triangle Open	○		Triangle Open	○	
82	A# 4	Shaker Analog	○		Shaker Analog	○		Shaker Analog	○		Shaker 1	○	
83	B 4	Jingle Bell	○		Jingle Bell	○		Jingle Bell	○		Jingle Bell	○	
84	C 5	Wind Chime	○		Bell Tree	○		Bell Tree	○		Turntable Noise	○	

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

Appendix

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		39			40			41			42		
Kit Type		Note on/off			Note on/off			Note on/off			Note on/off		
Note#	Note	JunglKtN	Key off	Alternate assign	D&BKitN	Key off	Alternate assign	BigKitN	Key off	Alternate assign	HipKit1N	Key off	Alternate assign
12	C -1	Reverse Snare Hip Rim 5	○		Reverse Snare Hip Rim 1	○		Reverse Side Stick	○		Reverse Snare Hip Rim 5	○	
13	C# -1	Reverse Tom Hard	○		Reverse Tom Soft	○		Reverse Tom Hard	○		Reverse Tom Hard	○	
14	D -1	Reverse Tom Soft	○		Reverse Tom Hard	○		Reverse Tom Ambience	○		Reverse Tom Soft	○	
15	D# -1	Reverse BD Analog Loose	○		Reverse BD Hip Deep	○		Reverse BD FX Gate	○		Reverse BD Hip Deep	○	
16	E -1	Reverse BD Jungle 1	○		Reverse BD D&B 2	○		Reverse BD Power Gate	○		Reverse BD R&B 1	○	
17	F -1	Reverse Crash Cymbal Heavy	○		Reverse Crash Cymbal Heavy	○		Reverse Crash Cymbal Heavy	○		Reverse Crash Cymbal Heavy	○	
18	F# -1	Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal Light	○	
19	G -1	Reverse Snare Piccolo Rim 2	○		Reverse Roll	○		Reverse Snare Gate 2	○		Reverse Snare Hip Rim 3	○	
20	G# -1	Reverse Snare Jungle 1	○		Reverse Snare D&B 1	○		Reverse Snare Gate 1	○		Reverse Snare R&B 1	○	
21	A -1	Snare Roll Break	○		Snare Roll Break	○		Snare Roll Break	○		Snare Roll Break	○	
22	A# -1	Reverse Hi-Hat	○		Reverse Hi-Hat Open Break	○		Reverse Hi-Hat Open Heavy	○		Reverse Hi-Hat Open Lo-fi	○	
23	B -1	BD Analog Loose	○		BD Soft	○		BD Room 2	○		BD Lo-fi	○	
24	C 0	BD Jungle 2	○		BD Hip Deep	○		BD FX Gate	○		BD Hip Deep	○	
25	C# 0	Snare Hip Rim 1	○		Bongo RX5 H	○		Side Stick	○		Snare Hip Rim 4	○	
26	D 0	Snare Jungle 3	○		Snare R&B 2	○		Snare Dry	○		Snare Hip Rim 2	○	
27	D# 0	Hand Clap Synth	○		Snare Timber	○		Hand Clap Acoustic	○		Snare Timber	○	
28	E 0	Snare Piccolo Rim 1	○		Snare D&B 3	○		Snare Gate 2	○		Snare Hip Rim 3	○	
29	F 0	Tom Hard 1	○		Tom Soft 1	○		Tom Hard 1	○		Tom Hard 1	○	
30	F# 0	Hi-Hat Closed Break	○		Hi-Hat Closed Light	○		Hi-Hat Closed Light	○		Hi-Hat Closed Lo-fi	○	
31	G 0	Tom Hard 2	○		Tom Soft 2	○		Tom Hard 2	○		Tom Hard 2	○	
32	G# 0	Hi-Hat Pedal Break 1	○		Hi-Hat Pedal Light	○		Hi-Hat Pedal Light	○		Hi-Hat Pedal Break 1	○	
33	A 0	Tom Hard 3	○		Tom Soft 3	○		Tom Hard 3	○		Tom Hard 3	○	
34	A# 0	Hi-Hat Open Break	○		Hi-Hat Open Light	○		Hi-Hat Open Light	○		Hi-Hat Open Lo-fi	○	
35	B 0	BD Jungle 3	○		BD D&B 1	○		BD Room 3	○		BD R&B 2	○	
36	C 1	BD Jungle 1	○		BD D&B 2	○		BD Power Gate	○		BD R&B 1	○	
37	C# 1	Snare Hip Rim 5	○		Snare Hip Rim 1	○		Snare Hip Rim 1	○		Snare Hip Rim 5	○	
38	D 1	Snare Jungle 1	○		Snare D&B 1	○		Snare Gate 1	○		Snare R&B 1	○	
39	D# 1	Snare Clap	○		Noiseburst	○		Hand Clap Large	○		Snare Hip Gate	○	
40	E 1	Snare Jungle 2	○		Snare D&B 2	○		Snare Ambience	○		Snare R&B Rim	○	
41	F 1	Tom Soft 1	○		Tom Hard 1	○		Tom Ambience 1	○		Tom Soft 1	○	
42	F# 1	Hi-Hat Closed Light	○		Hi-Hat Closed Tight	○		Hi-Hat Closed Heavy	○		Hi-Hat Closed R&B	○	
43	G 1	Tom Soft 2	○		Tom Hard 2	○		Tom Ambience 2	○		Tom Soft 2	○	
44	G# 1	Hi-Hat Pedal Light	○		Hi-Hat Pedal Break 2	○		Hi-Hat Closed Heavy	○		Hi-Hat Pedal R&B	○	
45	A 1	Tom Soft 3	○		Tom Hard 3	○		Tom Ambience 3	○		Tom Soft 3	○	
46	A# 1	Hi-Hat Open Light	○		Hi-Hat Open Break	○		Hi-Hat Open Heavy	○		Hi-Hat Open R&B	○	
47	B 1	Tom Soft 4	○		Tom Hard 4	○		Tom Ambience 4	○		Tom Soft 4	○	
48	C 2	Tom Soft 5	○		Tom Hard 5	○		Tom Ambience 5	○		Tom Soft 5	○	
49	C# 2	Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○	
50	D 2	Tom Soft 6	○		Tom Hard 6	○		Tom Ambience 6	○		Tom Soft 6	○	
51	D# 2	Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal Light	○	
52	E 2	Chinese Cymbal	○		Chinese Cymbal	○		Chinese Cymbal	○		Chinese Cymbal	○	
53	F 2	Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○	
54	F# 2	Tambourine	○		Tambourine	○		Tambourine	○		Tambourine	○	
55	G 2	Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○	
56	G# 2	Cowbell	○		Cowbell	○		Cowbell	○		Cowbell	○	
57	A 2	Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○	
58	A# 2	Vibraslap	○		Vibraslap	○		Vibraslap	○		Cowbell Analog 80	○	
59	B 2	Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal Light	○		Ride Cymbal Heavy	○	
60	C 3	Bongo H	○		Bongo H	○		Bongo H	○		Bongo H	○	
61	C# 3	Bongo L	○		Bongo L	○		Bongo L	○		Bongo L	○	
62	D 3	Conga H Mute	○		Conga H Mute	○		Conga H Mute	○		Conga H Mute	○	
63	D# 3	Conga H Open	○		Conga H Open	○		Conga H Open	○		Conga H Open	○	
64	E 3	Conga L	○		Conga L	○		Conga L	○		Conga L	○	
65	F 3	Tabla High	○		Snare D&B 4	○		BD & Hi-Hat Open H	○		BD & Hi-Hat Open H	○	
66	F# 3	Tabla Open	○		Reverse Hi-Hat	○		BD & Hi-Hat Open L	○		BD & Hi-Hat Open L	○	
67	G 3	Agogo H	○		Agogo H	○		Agogo H	○		Agogo H	○	
68	G# 3	Agogo L	○		Agogo L	○		Agogo L	○		Agogo L	○	
69	A 3	Cabasa	○		Cabasa	○		Cabasa	○		Cabasa	○	
70	A# 3	Maracas	○		Maracas	○		Maracas	○		Maracas	○	
71	B 3	Samba Whistle H	○		Sonar H	○		Samba Whistle H	○		Stab Giant H	○	
72	C 4	Samba Whistle L	○		Sonar L	○		Samba Whistle L	○		Stab Giant L	○	
73	C# 4	Guiro Short	○		Vox Bell H	○		Scratch 2	○		Scratch 2	○	
74	D 4	Guiro Long	○		Vox Bell L	○		Scratch Stop 1	○		Scratch Stop 1	○	
75	D# 4	Claves	○		Claves	○		Claves	○		Claves	○	
76	E 4	Wood Block H	○		Wood Block H	○		Wood Block H	○		Noiseburst	○	
77	F 4	Wood Block L	○		Wood Block L	○		Wood Block L	○		Car Crash	○	
78	F# 4	Cuica Mute	○		Cuica Mute	○		Scratch 1 H	○		Scratch 1 H	○	
79	G 4	Cuica Open	○		Cuica Open	○		Scratch 1 L	○		Scratch 1 L	○	
80	G# 4	Triangle Mute	○		Triangle Mute	○		Triangle Mute	○		Triangle Mute	○	
81	A 4	Triangle Open	○		Triangle Open	○		Triangle Open	○		Triangle Open	○	
82	A# 4	Shaker 1	○		Shaker 1	○		Shaker 1	○		Shaker 1	○	
83	B 4	Jingle Bell	○		Jingle Bell	○		Jingle Bell	○		Jingle Bell	○	
84	C 5	Bell Tree	○		Bell Tree	○		Bell Tree	○		Turntable Noise	○	

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		43			44			45			46		
Kit Type		Note on/off			Note on/off			Note on/off			Note on/off		
Note#	Note	Aco.KitN	Key off	Alternate assign	JazzKitN	Key off	Alternate assign	BrushKtN	Key off	Alternate assign	PercKt1N	Key off	Alternate assign
12	C -1	Reverse Side Stick	on		Reverse Side Stick	○		Reverse Snare Hip Rim 5	○		Reverse Log Drum 2	○	
13	C# -1	Reverse Tom Soft	on		Reverse Tom Brush	○		Reverse Tom Soft	○		Reverse Djembe Open	○	
14	D -1	Reverse Tom Dry	on		Reverse Tom Soft	○		Reverse Tom Brush	○		Reverse Tabla Open	○	
15	D# -1	Reverse BD Dry Hard	on		Reverse BD Room 2	○		Reverse BD Room 2	○		Reverse Surdo Open	○	
16	E -1	Reverse BD Room 2	on		Reverse BD Dry Hard	○		Reverse BD Dry Hard	○		Digeridoo 3 Short	○	
17	F -1	Reverse Crash Cymbal Light	on		Reverse Crash Cymbal Light	○		Reverse Crash Cymbal Light	○		Digeridoo 3 Long	○	
18	F# -1	Reverse Ride Cymbal Heavy	on		Reverse Cymbal Loop	○		Reverse Ride Cymbal Heavy	○		Gong 1	○	
19	G -1	Reverse Snare Piccolo Rim 2	on		Brush Swirl	○		Brush Swirl Short	○		Digeridoo 2	○	
20	G# -1	Reverse Snare Mid Room	on		Reverse Snare Piccolo 1	○		Reverse Brush Slap	○		Side Stick	○	
21	A -1	Snare Roll	on		Snare Roll	○		Brush Swirl Long	○		Digeridoo 1	○	
22	A# -1	Reverse Hi-Hat Open Heavy	on		Reverse Hi-Hat Open Light	○		Reverse Hi-Hat Open Light	○		Sticks	○	
23	B -1	BD Dry	on		BD Soft	○		BD Soft	○		Big Drum	○	
24	C 0	BD Dry Hard	on		BD Room 2	○		BD Room 2	○		Surdo Open	○	
25	C# 0	Side Stick	on		Finger Snap	○		Snare Hip Rim 4	○		Castanet	○	
26	D 0	Snare Piccolo 1	on		Brush Slap	○		Brush Slap Soft	○		Surdo Mute	○	
27	D# 0	Hand Clap Acoustic	on		Hand Clap Acoustic	○		Hand Clap Acoustic	○		Hand Clap Large	○	
28	E 0	Snare Piccolo Rim 1	on		Brush Tap	○		Brush Tap Soft	○		Djembe Mute	○	
29	F 0	Tom Soft 1	on		Tom Brush 1	○		Tom Soft 1	○		Djembe Open L	○	
30	F# 0	Hi-Hat Closed Light	on		Hi-Hat Closed Heavy	○		Hi-Hat Closed Heavy	○		Triangle Mute	○	
31	G 0	Tom Soft 2	on		Tom Brush 2	○		Tom Soft 2	○		Djembe Open H	○	
32	G# 0	Hi-Hat Pedal Light	on		Hi-Hat Pedal Heavy	○		Hi-Hat Pedal Heavy	○		Triangle Open Short	○	
33	A 0	Tom Soft 3	on		Tom Brush 3	○		Tom Soft 3	○		Djembe Edge	○	
34	A# 0	Hi-Hat Open Light	on		Hi-Hat Open Heavy	○		Hi-Hat Open Heavy	○		Triangle Open	○	
35	B 0	BD Room 1	on		BD Dry	○		BD Dry	○		Taiko Drum	○	
36	C 1	BD Room 2	on		BD Dry Hard	○		BD Dry Hard	○		Feet 1	○	
37	C# 1	Snare Hip Rim 1	on		Side Stick	○		Snare Hip Rim 5	○		Log Drum 2	○	
38	D 1	Snare Mid Room	on		Snare Piccolo 1	○		Brush Slap	○		Shekere 3	○	
39	D# 1	Hand Clap Large	on		Hand Clap Small	○		Hand Clap Small	○		Shekere 2	○	
40	E 1	Snare Break Rim	on		Snare Piccolo Rim 1	○		Brush Tap	○		Shekere 1	○	
41	F 1	Tom Dry 1	on		Tom Soft 1	○		Tom Brush 1	○		Tabla Open	○	
42	F# 1	Hi-Hat Closed Heavy	on		Hi-Hat Closed Light	○		Hi-Hat Closed Light Brush	○		Maracas Analog 80	○	
43	G 1	Tom Dry 2	on		Tom Soft 2	○		Tom Brush 2	○		Tabla Mute	○	
44	G# 1	Hi-Hat Pedal Heavy	on		Hi-Hat Pedal Light	○		Hi-Hat Pedal Light	○		Shaker Analog	○	
45	A 1	Tom Dry 3	on		Tom Soft 3	○		Tom Brush 3	○		Tabla High	○	
46	A# 1	Hi-Hat Open Heavy	on		Hi-Hat Open Light	○		Hi-Hat Open Light Brush	○		Cabasa	○	
47	B 1	Tom Dry 4	on		Tom Soft 4	○		Tom Brush 4	○		Udu Low	○	
48	C 2	Tom Dry 5	on		Tom Soft 5	○		Tom Brush 5	○		Udu High	○	
49	C# 2	Crash Cymbal Light	on		Crash Cymbal Light	○		Crash Cymbal Light Brush	○		Finger Cymbal 1	○	
50	D 2	Tom Dry 6	on		Tom Soft 6	○		Tom Brush 6	○		Udu Finger	○	
51	D# 2	Ride Cymbal Heavy	on		Ride Cymbal Heavy	○		Ride Cymbal Heavy Brush	○		Berimbau 2	○	
52	E 2	Chinese Cymbal	on		Chinese Cymbal	○		Chinese Cymbal Brush	○		Gong 2	○	
53	F 2	Ride Cymbal Cup	on		Ride Cymbal Cup	○		Ride Cymbal Cup Brush	○		Berimbau 1	○	
54	F# 2	Tambourine	on		Tambourine	○		Tambourine	○		Tambourine	○	
55	G 2	Splash Cymbal	on		Splash Cymbal	○		Splash Cymbal Brush	○		Gong 3	○	
56	G# 2	Cowbell	on		Cowbell	○		Cowbell	○		Cowbell	○	
57	A 2	Crash Cymbal Heavy	on		Crash Cymbal Heavy	○		Crash Cymbal Heavy Brush	○		Wind Chime	○	
58	A# 2	Vibraslap	on		Vibraslap	○		Vibraslap	○		Vibraslap	○	
59	B 2	Ride Cymbal Light	on		Ride Cymbal Light	○		Ride Cymbal Light Brush	○		Finger Cymbal 2	○	
60	C 3	Bongo H	on		Bongo H	○		Bongo H	○		Bongo H	○	
61	C# 3	Bongo L	on		Bongo L	○		Bongo L	○		Bongo L	○	
62	D 3	Conga H Mute	on		Conga H Mute	○		Conga H Mute	○		Conga H Mute	○	
63	D# 3	Conga H Open	on		Conga H Open	○		Conga H Open	○		Conga H Open	○	
64	E 3	Conga L	on		Conga L	○		Conga L	○		Conga L	○	
65	F 3	Timbale H	on		Timbale H	○		Timbale H	○		Timbale H	○	
66	F# 3	Timbale L	on		Timbale L	○		Timbale L	○		Timbale L	○	
67	G 3	Agogo H	on		Agogo H	○		Agogo H	○		Agogo H	○	
68	G# 3	Agogo L	on		Agogo L	○		Agogo L	○		Agogo L	○	
69	A 3	Cabasa	on		Cabasa	○		Cabasa	○		Cabasa	○	
70	A# 3	Maracas	on		Maracas	○		Maracas	○		Maracas	○	
71	B 3	Samba Whistle H	on		Samba Whistle H	○		Samba Whistle H	○		Samba Whistle H	○	
72	C 4	Samba Whistle L	on		Samba Whistle L	○		Samba Whistle L	○		Samba Whistle L	○	
73	C# 4	Guiro Short	on		Guiro Short	○		Guiro Short	○		Guiro Short	○	
74	D 4	Guiro Long	on		Guiro Long	○		Guiro Long	○		Guiro Long	○	
75	D# 4	Claves	on		Claves	○		Claves	○		Claves	○	
76	E 4	Wood Block H	on		Wood Block	○		Wood Block H	○		Wood Block H	○	
77	F 4	Wood Block L	on		Wood Block	○		Wood Block L	○		Wood Block L	○	
78	F# 4	Cuica Mute	on		Cuica Mute	○		Cuica Mute	○		Cuica Mute	○	
79	G 4	Cuica Open	on		Cuica Open	○		Cuica Open	○		Cuica Open	○	
80	G# 4	Triangle Mute	on		Triangle Mute	○		Triangle Mute	○		Triangle Mute	○	
81	A 4	Triangle Open	on		Triangle Open	○		Triangle Open	○		Triangle Open	○	
82	A# 4	Shaker 1	on		Shaker 1	○		Shaker 1	○		Shaker 1	○	
83	B 4	Jingle Bell	on		Jingle Bell	○		Jingle Bell	○		Jingle Bell	○	
84	C 5	Bell Tree	on		Bell Tree	○		Bell Tree	○		Bell Tree	○	

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

Appendix

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		54			55			56			57		
Kit Type		Note on/off			Note on/off			Note on/off			Note on/off		
Note#	Note	RevrsKit	Key off	Alternate assign	RX Kit N	Key off	Alternate assign	ElectKtN	Key off	Alternate assign	HousKt2N	Key off	Alternate assign
12	C -1	Reverse Finger Snap	○		Reverse Side Stick RX5	○		Reverse Hi Blip	○		Reverse Side Stick Analog 90	○	
13	C# -1	Reverse Tom Synth 1	○		Reverse Tom Soft	○		Reverse Tom Synth 1	○		Reverse Tom Analog 90	○	
14	D -1	Reverse Tom Industrial	○		Reverse Tom RX5	○		Reverse Tom SFX	○		Reverse Snare Synth 2	○	
15	D# -1	Reverse Feet 2	○		Reverse BD Room 1	○		Reverse BD Power Gate	○		Reverse Low Noise	○	
16	E -1	Reverse BD Hammer	○		Reverse BD RX5 1	○		Reverse BD Analog 82	○		Reverse BD Analog 92	○	
17	F -1	Reverse Sword	○		Reverse Crash Cymbal Light	○		Reverse Crash Cymbal 90	○		Reverse Synth Cymbal	○	
18	F# -1	Reverse FX Metal	○		Reverse Ride Cymbal Heavy	○		Reverse Ride Cymbal 90	○		Reverse Cymbal Loop	○	
19	G -1	Reverse Vox Hit	○		Reverse Snare Mid Room	○		Reverse Snare Hip Rim 3	○		Reverse Snare Analog 91	○	
20	G# -1	Reverse Snare Hammer	○		Reverse Snare RX5 1	○		Reverse Snare Analog 82	○		Reverse Snare Analog DM	○	
21	A -1	Reverse Roll	○		Snare Roll	○		Reverse Hand Clap Analog 80	○		Snare Roll FX	○	
22	A# -1	Reverse Hi-Hat Open SE	○		Reverse Hi-Hat Open RX5	○		Reverse Hi-Hat Open Analog 80	○		Reverse Hi-Hat Closed 90	○	
23	B -1	Reverse BD FX Gate	○		BD Soft	○		BD Power Gate	○		BD Analog 91	○	
24	C 0	Reverse BD Power Gate	○		BD Room 1	○		BD RX5 1	○		BD Analog 92	○	
25	C# 0	Reverse Side Stick	○		Snare Hip Rim 4	○		Hi Blip	○		Side Stick Analog 80	○	
26	D 0	Reverse Snare Gate 1	○		Snare Dry	○		Snare Analog 95	○		Snare Analog DM	○	
27	D# 0	Reverse Hand Clap Large	○		Hand Clap Small	○		Hand Clap RX5	○		Hand Clap Analog 80	○	
28	E 0	Reverse Snare Gate 2	○		Snare Mid Room	○		Snare Hip Rim 3	○		Snare Analog 91	○	
29	F 0	Reverse Tom Hard 1	○		Tom Soft 1	○		Tom Synth 1 1	○		Tom Analog 90 1	○	
30	F# 0	Reverse Hi-Hat Closed Heavy	○		Hi-Hat Half RX7	○		Hi-Hat Closed Synth	○		Hi-Hat Closed Analog 80	○	
31	G 0	Reverse Tom Hard 2	○		Tom Soft 2	○		Tom Synth 1 2	○		Tom Analog 90 2	○	
32	G# 0	Reverse Hi-Hat Pedal Heavy	○		Hi-Hat Pedal Light	○		Hi-Hat Open Synth 1	○		Hi-Hat Open Analog DM	○	
33	A 0	Reverse Tom Hard 3	○		Tom Soft 3	○		Tom Synth 1 3	○		Tom Analog 90 3	○	
34	A# 0	Reverse Hi-Hat Open Heavy	○		Hi-Hat Open Light	○		Hi-Hat Open Synth 2	○		Hi-Hat Open Analog 80	○	
35	B 0	Reverse BD Analog Rubber 2	○		BD RX5 2	○		BD Analog Blip 1	○		BD Analog 90	○	
36	C 1	Reverse BD Analog 90	○		BD RX5 1	○		BD Analog 81	○		BD Analog Hard 2	○	
37	C# 1	Reverse Side Stick Analog 90	○		Side Stick RX5	○		Side Stick Analog 80	○		Side Stick Analog 90	○	
38	D 1	Reverse Snare Analog 90	○		Snare RX5 1	○		Snare Analog 82	○		Snare Wood	○	
39	D# 1	Reverse Hand Clap Analog 90	○		Hand Clap RX5	○		Hand Clap Analog 80	○		Noiseburst	○	
40	E 1	Reverse Snare Analog 91	○		Snare RX5 2	○		Hand Clap Electro	○		Zap 1	○	
41	F 1	Reverse Tom Analog 90 1	○		Tom RX5 1	○		Tom SFX 1	○		Tom Electro 2 1	○	
42	F# 1	Reverse Hi-Hat Closed 90	○		Hi-Hat Closed RX5	○		Hi-Hat Closed Analog 80	○		Hi-Hat Closed 90	○	
43	G 1	Reverse Tom Analog 90 2	○		Tom RX5 2	○		Tom SFX 2	○		Tom Electro 2 2	○	
44	G# 1	Reverse Hi-Hat Closed 90	○		Hi-Hat Open RX5 1	○		Hi-Hat Open Analog 81	○		Hi-Hat Open 90 1	○	
45	A 1	Reverse Tom Analog 90 3	○		Tom RX5 3	○		Tom SFX 3	○		Tom Electro 2 3	○	
46	A# 1	Reverse Hi-Hat Open 90	○		Hi-Hat Open RX5 2	○		Hi-Hat Open Analog 80	○		Hi-Hat Open 90 2	○	
47	B 1	Reverse Tom Analog 90 4	○		Tom RX5 4	○		Tom SFX 4	○		Tom Electro 2 4	○	
48	C 2	Reverse Tom Analog 90 5	○		Tom RX5 5	○		Tom SFX 5	○		Tom Electro 2 5	○	
49	C# 2	Reverse Crash Cymbal 90	○		Crash Cymbal Light	○		Crash Cymbal 90	○		Crash Cymbal 90	○	
50	D 2	Reverse Tom Analog 90 6	○		Tom RX5 6	○		Tom SFX 6	○		Tom Electro 2 6	○	
51	D# 2	Reverse Ride Cymbal 90	○		Ride Cymbal Heavy	○		Ride Cymbal 90	○		Ride Cymbal 90	○	
52	E 2	Reverse Cymbal Loop	○		Chinese Cymbal	○		Crash Cymbal Slow Attack	○		Cymbal Synth 1	○	
53	F 2	Reverse Ride Cymbal Cup	○		Ride Cymbal Cup	○		Cymbal Synth 1	○		Ride Cymbal Cup	○	
54	F# 2	Reverse Tambourine RX5	○		Tambourine RX5	○		Tambourine SFX	○		Tambourine	○	
55	G 2	Reverse Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○		Crash Analog 80	○	
56	G# 2	Reverse Cowbell	○		Cowbell RX11	○		Side Stick FX	○		Cowbell	○	
57	A 2	Reverse Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Heavy	○		Crash Cymbal Light	○	
58	A# 2	Reverse Cowbell Analog 80	○		Vibraslap	○		Cowbell Analog 80	○		Cowbell Analog 80	○	
59	B 2	Reverse Ride Cymbal Heavy	○		Ride Cymbal Light	○		Cymbal Synth 1	○		Ride Cymbal Heavy	○	
60	C 3	Reverse Bongo RX5 H	○		Bongo RX5 H	○		Bongo Analog H	○		Bongo H	○	
61	C# 3	Reverse Bongo RX5 L	○		Bongo RX5 L	○		Bongo Analog L	○		Bongo L	○	
62	D 3	Reverse Conga H Mute	○		Conga H Mute	○		Conga Analog H	○		Conga H Mute	○	
63	D# 3	Reverse Conga H Open	○		Conga H Open	○		Conga Analog M	○		Conga H Open	○	
64	E 3	Reverse Conga L	○		Conga L	○		Conga Analog L	○		Conga L	○	
65	F 3	Reverse Timbale H	○		Timbale H	○		Noise FX	○		Tom Synth 1 H	○	
66	F# 3	Reverse Timbale L	○		Timbale L	○		Telephone FX	○		Tom Synth 1 L	○	
67	G 3	Reverse Agogo RX5 H	○		Agogo RX5 H	○		Metal Noise 1 H	○		Synth Click	○	
68	G# 3	Reverse Agogo RX5 L	○		Agogo RX5 L	○		Metal Noise 1 L	○		Side Stick FX	○	
69	A 3	Reverse Cabasa	○		Shaker RX11	○		Hi-Hat Open Lo-fi	○		Cabasa	○	
70	A# 3	Reverse Maracas	○		Maracas	○		Maracas	○		Maracas	○	
71	B 3	Reverse SFX Gun 2	○		Samba Whistle H	○		Zap 1	○		Vox Drum 1 L	○	
72	C 4	Reverse SFX Gun 1	○		Samba Whistle L	○		Zap 2	○		Vox Drum 1 H	○	
73	C# 4	Reverse Zap 1	○		Guiro Short	○		Zoom	○		Tambourine Analog	○	
74	D 4	Reverse Scratch Stop 1	○		Guiro Long	○		Reverse Synth Cymbal	○		Guiro Analog DM	○	
75	D# 4	Reverse Hi Q 1 H	○		Claves	○		Hi Q 1 H	○		Claves Analog	○	
76	E 4	Reverse Hi Q 1 L	○		Wood Block H	○		Hi Q 1 L	○		Tambourine RX5	○	
77	F 4	Reverse Hi Q 2	○		Wood Block L	○		Hi Q 2	○		Cowbell RX11	○	
78	F# 4	Reverse Zap 2	○		Cuica Mute	○		Hit Hammer	○		Shaker RX11	○	
79	G 4	Reverse Tom SFX	○		Cuica Open	○		Hit Orchestra	○		VPercussion	○	
80	G# 4	Reverse Triangle Mute	○		Triangle Mute	○		Hi-Hat Closed SE	○		Triangle Mute	○	
81	A 4	Reverse Triangle Open	○		Triangle Open	○		Hi-Hat Open SE	○		Triangle Open	○	
82	A# 4	Reverse Shaker Analog	○		Shaker 1	○		Shaker Analog	○		Shaker Analog	○	
83	B 4	Reverse Jingle Bell	○		Jingle Bell	○		FX Metal	○		Jingle Bell	○	
84	C 5	Reverse Bell Tree	○		Bell Tree	○		Wind Chime FX	○		Wind Chime FX	○	

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

Bank MSB		126			126			126			126		
Bank LSB		0			0			0			0		
Program		58			59			60			61		
Kit Type		Note on/off			Note on/off			Note on/off			Note on/off		
Note#	Note	Hip Kit2N	Key off	Alternate assign	R&B KitN	Key off	Alternate assign	SmothKtN	Key off	Alternate assign	HumanKtN	Key off	Alternate assign
12	C -1	Reverse Side Stick RX5	○		Reverse Snare Hip Rim 6	○		Reverse Side Stick Electro	○		Reverse Vox Go!	○	
13	C# -1	Reverse BD Analog 83	○		Reverse Tom Synth 1	○		Reverse Tom Analog 80	○		Reverse Vox Buh!	○	
14	D -1	Reverse Tom Soft	○		Reverse BD Analog 83	○		Reverse Tom Soft	○		Reverse BD Human	○	
15	D# -1	Turntable Noise	○		Turntable Noise	○		Turntable Noise	○		Reverse Vox Muh!	○	
16	E -1	Reverse BD Hip Deep	○		Reverse BD Analog 82	○		Reverse BD Analog 90	○		Reverse Vox Buh!	○	
17	F -1	Reverse Crash Cymbal Light	○		Udu FX	○		Reverse Crash Cymbal Light	○		Reverse Noiseburst	○	
18	F# -1	Reverse Ride Cymbal Heavy	○		Reverse Cymbal Loop	○		Car Crash	○		Reverse Vox Whoa!	○	
19	G -1	Reverse Roll	○		Reverse Snare FX Gate	○		Reverse Snare Analog 95	○		Reverse Vox Hit	○	
20	G# -1	Reverse Snare Break Lo-fi 3	○		Reverse Snare Hip Rim 3	○		Reverse Snare Analog 94	○		Reverse Vox Buh!	○	
21	A -1	Snare Roll Break	○		Snare Roll Break	○		Snare Roll Break	○		Reverse Snare Hip FX H	○	
22	A# -1	Reverse Hi-Hat Pedal Break 1	○		Reverse Hi-Hat Open Tek	○		Reverse Hi-Hat Pedal Light	○		Reverse Hi-Hat Open Lo-fi	○	
23	B -1	BD Analog 81	○		BD Analog 83	○		BD Analog 80	○		Vox Muh!	○	
24	C 0	BD Analog 83	○		BD Analog 82	○		BD Analog 70 L	○		BD Human	○	
25	C# 0	Side Stick Analog 80	○		Finger Snap	○		Finger Snap	○		Scratch Vox 1 F	○	
26	D 0	Snare Analog 83	○		Side Stick Electro	○		Snare Analog 81	○		Vox Hit	○	
27	D# 0	Hand Clap Analog 80	○		Hand Clap Synth	○		Hand Clap Analog 80	○		Scratch Vox 1 B	○	
28	E 0	Snare Synth 2	○		Snare Analog Gate	○		Snare Analog 80	○		Vox Tah!	○	
29	F 0	Tom Synth 2 1	○		Tom Synth 1 1	○		Tom Analog 80 1	○		Vox Buh! 1	○	
30	F# 0	Hi-Hat Closed Tek	○		Hi-Hat Closed Tek	○		Hi-Hat Closed Analog 81	○		Scratch Vox 2 F	○	
31	G 0	Tom Synth 2 2	○		Tom Synth 1 2	○		Tom Analog 80 2	○		Vox Buh! 2	○	
32	G# 0	Hi-Hat Open Analog 80	○		Hi-Hat Open Tek 1	○		Hi-Hat Closed Analog DM	○		Scratch Vox 2 B	○	
33	A 0	Tom Synth 2 3	○		Tom Synth 1 3	○		Tom Analog 80 3	○		Vox Buh! 3	○	
34	A# 0	Hi-Hat Open Tek	○		Hi-Hat Open Tek 2	○		Hi-Hat Open Analog 81	○		Hi-Hat Open Tek	○	
35	B 0	BD Break Deep	○		BD Soft	○		BD Analog 70	○		BD Human Deep	○	
36	C 1	BD Hip Deep	○		BD Analog Rubber 1	○		BD Analog 90	○		Vox Buh!	○	
37	C# 1	Side Stick RX5	○		Snare Hip Rim 7	○		Side Stick Electro	○		Vox Go!	○	
38	D 1	Snare Analog 93	○		Snare Hip Rim 3	○		Snare Analog 94	○		Vox Buh!	○	
39	D# 1	Hand Clap Small	○		Hand Clap Small	○		Hand Clap Small	○		Snare Hip FX H	○	
40	E 1	Snare Break Lo-fi 3	○		Snare FX Gate	○		Snare Analog 95	○		Snare Hip Rezo	○	
41	F 1	Tom Soft 1	○		Tom Analog 81 1	○		Tom Soft 1	○		Tom Human 1	○	
42	F# 1	Hi-Hat Closed Break	○		Hi-Hat Closed Analog 80	○		Hi-Hat Closed Light	○		Hi-Hat Open Lo-fi	○	
43	G 1	Tom Soft 2	○		Tom Analog 81 2	○		Tom Soft 2	○		Tom Human 2	○	
44	G# 1	Hi-Hat Pedal Break 1	○		Hi-Hat Closed Analog 70	○		Hi-Hat Pedal Light	○		Scratch Vox 2 B	○	
45	A 1	Tom Soft 3	○		Tom Analog 81 3	○		Tom Soft 3	○		Tom Human 3	○	
46	A# 1	Hi-Hat Open Lo-fi	○		Hi-Hat Open Analog 80	○		Hi-Hat Open Light	○		Hi-Hat Open Lo-fi	○	
47	B 1	Tom Soft 4	○		Tom Analog 81 4	○		Tom Soft 4	○		Tom Human 4	○	
48	C 2	Tom Soft 5	○		Tom Analog 81 5	○		Tom Soft 5	○		Tom Human 5	○	
49	C# 2	Crash Cymbal Heavy	○		Crash Cymbal Light	○		Crash Cymbal Heavy	○		Noiseburst	○	
50	D 2	Tom Soft 6	○		Tom Analog 81 6	○		Tom Soft 6	○		Tom Human 6	○	
51	D# 2	Ride Cymbal Heavy	○		Ride Cymbal 90	○		Ride Cymbal Heavy	○		Vox Whoa!	○	
52	E 2	Chinese Cymbal	○		Chinese Cymbal	○		Chinese Cymbal	○		Vox Hit	○	
53	F 2	Ride Cymbal Cup	○		Ride Cymbal Cup	○		Ride Cymbal Cup	○		Vox Go!	○	
54	F# 2	Tambourine RX5	○		Tambourine	○		Tambourine	○		Scratch SD B	○	
55	G 2	Splash Cymbal	○		Splash Cymbal	○		Splash Cymbal	○		Vox Ahhh!	○	
56	G# 2	Cowbell RX11	○		Cowbell	○		Cowbell	○		Vox Drum 1	○	
57	A 2	Crash Cymbal Light	○		Crash Cymbal 90	○		Crash Cymbal Light	○		Cymbal Synth 2	○	
58	A# 2	Cowbell Analog 80	○		Cowbell Analog 80	○		Cowbell Analog 80	○		Vox Drum 2	○	
59	B 2	Ride Cymbal Heavy	○		Ride Cymbal Heavy	○		Ride Cymbal 90	○		Vocd Ahh	○	
60	C 3	Bongo H	○		Bongo H	○		Bongo Analog H	○		Bongo H	○	
61	C# 3	Bongo L	○		Bongo L	○		Bongo Analog L	○		Bongo L	○	
62	D 3	Conga H Mute	○		Conga H Mute	○		Conga H Mute	○		Conga H Mute	○	
63	D# 3	Conga H Open	○		Conga H Open	○		Conga H Open	○		Conga H Open	○	
64	E 3	Conga L	○		Conga L	○		Conga L	○		Conga L	○	
65	F 3	Hit Brass 2	○		Synth Bubble H	○		Scratch Vox 1 F	○		Vox Yo!	○	
66	F# 3	Hit Guitar	○		Synth Bubble L	○		Scratch Vox 1 B	○		Vox Huh!	○	
67	G 3	Agogo H	○		Agogo H	○		Metal Analog H	○		Agogo H	○	
68	G# 3	Agogo L	○		Agogo L	○		Metal Analog L	○		Agogo L	○	
69	A 3	Cabasa	○		Shaker Analog	○		Cabasa	○		Cabasa	○	
70	A# 3	Maracas Analog 80	○		Maracas	○		Maracas	○		Maracas	○	
71	B 3	Hit EP L	○		Vox Drum 1 H	○		Hit EP L	○		Reverse Vox Whoa!	○	
72	C 4	Hit EP H	○		Vox Drum 1 L	○		Hit EP H	○		Reverse Vox Muh!	○	
73	C# 4	Scratch Spin	○		Hi Q 1	○		Vox Pad L	○		Scratch 2	○	
74	D 4	Scratch Stop 2	○		Hi Q 2	○		Vox Pad H	○		Scratch Stop 1	○	
75	D# 4	Claves Analog	○		Claves Analog	○		Claves Analog	○		Reverse Scratch Stop 1	○	
76	E 4	Door Squeak	○		Vibraslap Synth	○		Hand Clap Electro	○		Scratch 4 B	○	
77	F 4	Hit Brass 3	○		Scratch Spin	○		Scratch Stop 2	○		Reverse Scratch Stop 2	○	
78	F# 4	Scratch BD F	○		Scratch 3 B	○		Finger Cymbal	○		Scratch 1 H	○	
79	G 4	Scratch BD B	○		Scratch 3 F	○		Vibraslap	○		Scratch 1 L	○	
80	G# 4	Triangle Mute	○		Triangle Mute	○		Triangle Mute	○		Triangle Mute	○	
81	A 4	Triangle Open	○		Triangle Open	○		Triangle Open	○		Triangle Open	○	
82	A# 4	Shaker Analog	○		Shaker 1	○		Shaker 1	○		Shaker 1	○	
83	B 4	Tambourine Low	○		Tambourine	○		Jingle Bell	○		Jingle Bell	○	
84	C 5	Wind Chime	○		Wind Chime FX	○		Wind Chime	○		Turntable Noise	○	

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

Appendix

SFX type

Bank MSB		126			126			126		
Bank LSB		0			0			0		
Program		25			26			63		
Kit Type		SFX			SFX			SFX		
Note#	Note	SFX Kit1	Key off	Alternate assign	SFX Kit2	Key off	Alternate assign	SFX Kit3	Key off	Alternate assign
24	C 0	LFO SFX2	○		RevBomb	○		EleNoiz	○	
25	C# 0	LFO SFX3	○		RvThundr	○		DelySFX4	○	
26	D 0	LFO SFX4	○		RvDoorSl	○		DelySFX7	○	
27	D# 0	Pingpong	○		RevPunch	○		EerieRes	○	
28	E 0	Trance1	○		Shower	○		Tibet	○	
29	F 0	Trance2	○		Thunder	○		Airsnake	○	
30	F# 0	Trance3	○		Wind	○		Hammer	○	
31	G 0	Trance4	○		Seashore	○		EchoShot	○	
32	G# 0	Trance5	○		Steam	○		SFX Prc1	○	
33	A 0	Trance6	○		Bubble	○		SFX Prc2	○	
34	A# 0	Trance7	○		Dog	○		SFX Prc3	○	
35	B 0	Trance8	○		Horse	○		SFX Prc4	○	
36	C 1	Trance9	○		Tweet 1	○		SFX Prc5	○	
37	C# 1	Trance10	○		Tweet 2	○		SFX Prc6	○	
38	D 1	Trance11	○		Growl	○		SFX Prc7	○	
39	D# 1	FunnyCPU	○		DoorSqek	○		NoizClap	○	
40	E 1	Siren	○		DoorSlam	○		FEG Noiz	○	
41	F 1	SystmDwn	○		Telphon1	○		FlngNoiz	○	
42	F# 1	Smoky	○		Telphon2	○		SynMetal	○	
43	G 1	Sonr&CPU	○		Scratch1	○		Rebound	○	
44	G# 1	FX-NG	○		TurnTabl	○		Vox Go!	○	
45	A 1	Machine?	○		TapeRwnd	○		VoxWhoa!	○	
46	A# 1	Bikers	○		GlasNoiz	○		Vox Yo!	○	
47	B 1	RvrsLife	○		MetalNz1	○		VoxAhhh!	○	
48	C 2	PanImpct	○		MetalNz2	○		Vox Huh!	○	
49	C# 2	ShotStar	○		IndstTom	○		Vox Muh!	○	
50	D 2	AnBubble	○		CarElgn	○		Vox Tah!	○	
51	D# 2	GameOver	○		CarTSqel	○		Vox Buh!	○	
52	E 2	ToneDeaf	○		Car Pass	○		Vox Hit	○	
53	F 2	What?	○		CarCrash	○		Vocd Ahh	○	
54	F# 2	Zap Gun	○		Train	○		VoxDrum1	○	
55	G 2	Hndrail1	○		Helicptr	○		VoxDrum2	○	
56	G# 2	Hndrail2	○		RevBurst	○		RvVoxGo!	○	
57	A 2	Hitchhik	○		RevLowNz	○		RvVxWhoa	○	
58	A# 2	Digger	○		Laugh	○		RvVoxYo!	○	
59	B 2	Propelr1	○		Scream	○		RvVxAhhh	○	
60	C 3	Propelr2	○		Punch	○		RvVxHuh!	○	
61	C# 3	Greeting	○		Heart	○		RvVxMuh!	○	
62	D 3	Safari	○		Footstep	○		RvVxTah!	○	
63	D# 3	Sesame	○		Applause	○		RvVxBuh!	○	
64	E 3	Buddha	○		BrthNoiz	○		RvVoxHit	○	
65	F 3	Wah Seq1	○		Gunshot	○		RvVxDrm2	○	
66	F# 3	Wah Seq2	○		Bomb	○		Scrtch2C	○	
67	G 3	Biter	○		HiQ 1	○		Scrtch2D	○	
68	G# 3	Vacuum	○		HiQ 2	○		Scrtch2E	○	
69	A 3	Brokndwn	○		SFX Gun1	○		Scrtch2F	○	
70	A# 3	Teleport	○		SFX Gun2	○		ScratchH	○	
71	B 3	Scat	○		BrstNoiz	○		ScrchDrC	○	
72	C 4	Disaster	○		Ripper	○		ScrchDrD	○	
73	C# 4	Match	○		Zap1	○		ScrchDrE	○	
74	D 4	LasrShot	○		Zap2	○		ScrchDrF	○	
75	D# 4	Whimsy1	○		Zoom	○		ScrchVxA	○	
76	E 4	Whimsy2	○		Alarm	○		ScrchVxB	○	
77	F 4	Feeder	○		RvTapeRw	○		ScrchVxC	○	
78	F# 4	Rising	○		RvGlasNz	○		ScrchVxD	○	
79	G 4	Drain	○		RvMtlNz1	○		ScrchDwn	○	
80	G# 4	Spin	○		RvMtlNz2	○		RvScrDwn	○	
81	A 4	Takeoff	○		RvIndsTm	○		Scrtch2A	○	
82	A# 4	GiantStp	○		RvCarElg	○		Scrtch2B	○	
83	B 4	CyberStp	○		RvCarCrs	○		ScrchDrA	○	
84	C 5	Typhoon	○		RvGunsht	○		ScrchDrB	○	
85	C# 5	Rocker	○		RevHiQ1	○		RvSyVibr	○	
86	D 5	Amphibia	○		RevHiQ2	○		RvBelTre	○	
87	D# 5	Escape	○		RevSyTm1	○		RvSyMetl	○	
88	E 5	Whirlpol	○		RevSyTm2	○		RvRebond	○	
89	F 5	ShortWav	○		RvSFXGn1	○				
90	F# 5	Dentist	○		RvSFXGn2	○				
91	G 5	AlarmDwn	○		RvBrstNz	○				
92	G# 5	Cops	○		RvRipper	○				
93	A 5	Police	○		RevZap1	○				
94	A# 5	LFO SFX7	○		RevZap2	○				
95	B 5	LFO SFX5	○		RevZoom	○				
96	C 6	LFO SFX6	○		RevAlarm	○				

(shaded box) : No sound.

Some Voice Edit parameters will have no effect on the sound.
All instruments are compatible with Key Off messages.

7. Phrase Category List

Phrase Category		Display	Category Name
US		User	User
BD	✳1	Bass Drum	Bass Drum
SD	✳1	SD/Clap	Snare Drum/Clap
HH	✳1	HH/Ride	Hi-Hat/Ride Cymbal
CR	✳1	Crash Cym.	Crash Cymbal
PC	✳1	Percussion	Percussion
BA	✳2	Bass	Bass
LD	✳2	Synth Lead	Synth Lead
SQ	✳2	Synth Seq.	Synth Sequence
CH	✳2	Synth Chord	Synth Chord
PD	✳2	Synth Pad	Synth Pad
FX	✳2	Synth Efx	Synth Effects
SE	✳2	SE	Sound Effects
KB	✳2	Keyboard	Keyboard
GT	✳2	Guiter	Guiter
CW	✳2	Clasc/Wind	Classical/Wind
ET	✳2	Ethnic	Ethnic

✳1 Can only be selected for tracks 1 ... 8.
✳2 Can only be selected for tracks 9 ... 16.

8. Effect Type List

Effect Category	Effect Name	LCD	MIDI (HEX)		No.			
			MSB	LSB	REV	DLY/ CHO	VAR	Master
---	NO EFFECT	OFF	00	00	0	0	0	
REVERB								
	HALL 1	HALL 1	01	00	1		1	
	HALL 2	HALL 2	01	01	2		2	
	ROOM 1	ROOM 1	01	10	3		3	
	ROOM 2	ROOM 2	01	11	4		4	
	ROOM 3	ROOM 3	01	12	5		5	
	STAGE 1	STAGE 1	01	20	6		6	
	STAGE 2	STAGE 2	01	21	7		7	
	PLATE	PLATE	01	30	8		8	
	WHITE ROOM	WHITEROOM	01	40	9			
	TUNNEL	TUNNEL	01	41	10			
	BASEMENT	BASEMENT	01	42	11			
	CANYON	CANYON	01	43	12			
DELAY								
	DELAY L, C, R	DELAY LCR	02	00			9	
	DELAY L, R	DELAY LR	02	10		18	10	
	ECHO	ECHO	02	20		25	11	
	CROSS DELAY	CROSS-DLY	02	30		24	12	
	CONTROL DELAY (MONO)	CTRLDLY M	02	40		19	13	
	CONTROL DELAY (STEREO)	CTRLDELAY	02	48		20	14	3
	TEMPO DELAY (MONO)	TMP-DLY 1	02	50		21	15	
	TEMPO DELAY (STEREO)	TMP-DLY 2	02	58		22	16	
	TEMPO CROSS DELAY	TMP-C-DLY	02	60		23	17	
EARLY REFLECTION								
	EARLY REFLECTION 1	ER 1	03	00			18	
	EARLY REFLECTION 2	ER 2	03	01			19	
	GATE REVERB	GATE REV	03	10			20	
	REVERSE GATE	REVRSGATE	03	20			21	
KARAOKE								
	KARAOKE 1	KARAOKE 1	04	00			22	
	KARAOKE 2	KARAOKE 2	04	01			23	
	KARAOKE 3	KARAOKE 3	04	02			24	
CHORUS								
	CHORUS 1	CHORUS 1	05	00		1	25	
	CHORUS 2	CHORUS 2	05	01		2	26	
	CHORUS 3	CHORUS 3	05	02		3	27	
	CHORUS 4	CHORUS 4	05	08		4	28	
	CHORUS 5	CHORUS 5	05	09		5	29	
	CELESTE 1	CELESTE 1	05	10		6	30	
	CELESTE 2	CELESTE 2	05	11		7	31	
	CELESTE 3	CELESTE 3	05	12		8	32	
	CELESTE 4	CELESTE 4	05	18		9	33	
	SYMPHONIC	SYMPHONIC	05	20		10	34	
	ENSEMBLE DETUNE	ENSEMBLE	05	30		11	35	
FLANGER								
	FLANGER 1	FLANGER 1	06	00		12	36	
	FLANGER 2	FLANGER 2	06	01		13	37	
	FLANGER 3	FLANGER 3	06	08		14	38	
	V-FLANGER	V-FLANGER	06	10			39	
	TEMPO FLANGER	TMP-FLNG	06	50		15	40	
	DYNAMIC FLANGER	D-FLANGER	06	60			41	
PHASER								
	PHASER 1	PHASER 1	07	00		16	42	
	PHASER 2	PHASER 2	07	08			43	
	TEMPO PHASER	TMP-PHASE	07	50		17	44	
	DYNAMIC PHASER	D-PHASER	07	60			45	

Appendix

Effect Category	Effect Name	LCD	MIDI (HEX)		No.			
			MSB	LSB	REV	DLY/ CHO	VAR	Master
MODULATION								
	TREMOLO	TREMOLO	08	00			46	
	AUTO PAN	AUTO PAN	08	10			47	
	ROTARY SPEAKER	ROTARY SP	08	50			48	
	DISTORTION+ROTARY SPEAKER	DIST+RTRY	08	51			49	
	OVERDRIVE+ROTARY SPEAKER	ODRV+RTRY	08	52			50	
	AMP SIM.+ROTARY SPEAKER	AMP+RTRY	08	53			51	
	2WAY ROTARY SPEAKER	2WAY RTRY	08	60			52	
	DISTORTION+2WAY ROTARY SPEAKER	DST+2RTRY	08	61			53	
	OVERDRIVE+2WAY ROTARY SPEAKER	ODRV+2RTY	08	62			54	
	AMP SIM.+2WAY ROTARY SPEAKER	AMP+2RTRY	08	63			55	
	DUAL ROTOR SPEAKER1	DUAL RTR1	08	70			56	
	DUAL ROTOR SPEAKER2	DUAL RTR2	08	71			57	
DISTORTION								
	DISTORTION	DIST	09	00			58	
	COMP DISTORTION	COMP+DIST	09	01			59	
	V-DISTORTION	V-DIST	09	10			60	6
	OVER DRIVE	OVERDRIVE	09	20			61	
	AMP SIMULATOR	AMP SIM	09	30			62	
	DIST+DELAY	DIST+DLY	09	40			63	
	OVERDRIVE+DELAY	ODRV+DLY	09	41			64	
DYNAMIC								
	COMPRESSOR	COMPRESSR	0A	00			65	
	NOISE GATE	NOISEGATE	0A	20			66	
	COMP+DIST+DELAY	CMP+DT+DL	0A	40			67	
	COMP+OVERDRIVE+DELAY	CMP+OD+DL	0A	41			68	
	MULTI COMPRESSOR 1	MULTICOMP	0A	50			69	4
	MULTI COMPRESSOR 2	MULTICMP2	0A	51			70	
PITCH CHANGE								
	PITCH CHANGE 1	PTCH CNG1	0B	00			71	
	PITCH CHANGE 2	PTCH CNG2	0B	01			72	
WAH								
	AUTO WAH	AUTO WAH	0C	00			73	
	AUTO WAH + DIST	A-WAH+DST	0C	01			74	
	AUTO WAH + OVERDRIVE	A-WAH+ODR	0C	02			75	
	TOUCH WAH	TOUCH WAH	0C	10			76	
	TOUCH WAH + DIST	T-WAH+DST	0C	11			77	
	TOUCH WAH + OVERDRIVE	T-WAH+ODR	0C	12			78	
	WAH+DIST+DELAY	WAH+DT+DL	0C	40			79	
	WAH+OVERDRIVE+DELAY	WAH+OD+DL	0C	41			80	
LO-FI								
	LO-FI	LO-FI	0D	00			81	7
	LOW RESOLUTION	LOW RESO	0D	10			82	
	NOISY	NOISY	0D	20			83	
	ATTACK LO-FI	ATK LO-FI	0D	30			84	
	DIGITAL TURNTABLE	D-TURNTBL	0D	50			85	
TECH								
	DIGITAL SCRATCH	D-SCRATCH	0E	00			86	
	AUTO SYNTH	AUTOSYNTH	0E	10			87	
	TECH MODULATION	TECH MOD	0E	20			88	
	JUMP	JUMP	0E	30			89	
	ISOLATION	ISOLATION	0E	40			90	1
	SLICE	SLICE	0E	50			91	8
MISC								
	3-BAND EQ	3-BAND EQ	0F	00			92	
	2-BAND EQ	2-BAND EQ	0F	01			93	
	HARMONIC ENHANCER	ENHANCER	0F	10			94	
	VOICE CANCEL	VCECANCEL	0F	20			95	
	AMBIENCE	AMBIENCE	0F	30			96	
	TALKING MODULATOR	TALK MOD	0F	40			97	
	RING MODULATOR	RING MOD	0F	70			98	5
	DYNAMIC RING MODULATOR	D-RINGMOD	0F	71			99	
	DYNAMIC FILTER	D-FILTER	0F	78			100	2

9. Effect Parameter List

1. Reverb

01 HALL 1 ~ 08 PLATE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Reverb Time	0.3s ~ 30.0s	(0 ~ 69)	1	4
2	Initial Delay	0.1ms ~ 200.0ms	(0 ~ 127)	2	5
3	Reverb Delay	0.1ms ~ 200.0ms	(0 ~ 127)	3	5
4	ER/Rev Balance	E63>R ~ E=R ~ E<R63	(1 ~ 127)	4	
5	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	5	3
6	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	6	3
7	Diffusion	0 ~ 10	(0 ~ 10)	7	
8	Density	0 ~ 4	(0 ~ 4)	8	
9	Feedback Level	-63 ~ +63	(1 ~ 127)	9	
10	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	10	

09 WHITE ROOM ~ 12 CANYON

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Reverb Time	0.3s ~ 30.0s	(0 ~ 69)	1	4
2	Initial Delay	0.1ms ~ 200.0ms	(0 ~ 127)	2	5
3	Reverb Delay	0.1ms ~ 200.0ms	(0 ~ 127)	3	5
4	Diffusion	0 ~ 10	(0 ~ 10)	4	
5	Width	0.5m ~ 30.2m	(0 ~ 104)	5	11
6	Height	0.5m ~ 30.2m	(0 ~ 104)	6	11
7	Depth	0.5m ~ 30.2m	(0 ~ 104)	7	11
8	Wall Vary	0 ~ 30	(0 ~ 30)	8	
9	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	9	3
10	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	10	3

2. Delay/Chorus

01 CHORUS 1 ~ 09 CELESTE 4

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Delay Offset	0.0ms ~ 50.0ms	(0 ~ 127)	4	2
5	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
6	EQ Low Gain	-12dB ~+12dB	(52 ~ 76)	6	
7	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
8	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	

10 SYMPHONIC

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Delay Offset	0.0ms ~ 50.0ms	(0 ~ 127)	3	2
4	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	4	3
5	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	5	
6	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	6	3
7	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	7	

11 ENSEMBLE DETUNE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Detune	-50cent ~ +50cent	(14 ~ 114)	1	
2	Initial Delay Lch	0.0ms ~ 50.0ms	(0 ~ 127)	2	2
3	Initial Delay Rch	0.0ms ~ 50.0ms	(0 ~ 127)	3	2

12 FLANGER 1 ~ 14 FLANGER 3

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Delay Offset	0.0ms ~ 50.0ms	(0 ~ 127)	4	2
5	LFO Phase Difference	-180deg ~ +180deg	(4 ~ 124)	5	
6	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	6	3
7	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	7	
8	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	8	3
9	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	9	

15 TEMPO FLANGER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd, Whole/3, 2nd., 4thx4, 4thx5, 4thx6, 4thx7, 4thx8	(5 ~ 21)	1	
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Delay Offset	0.0ms ~ 50.0ms	(0 ~ 127)	4	2
5	LFO Phase Difference	-180deg ~ +180deg	(4 ~ 124)	5	
6	LFO Phase Reset	off (free run), Key On Reset, SEQ Start Reset	(0 ~ 2)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	7	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	9	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	10	

16 PHASER 1

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Phase Shift Offset	0 ~ 127	(0 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Stage	4, 5, 6	(4 ~ 6)	5	
6	Diffusion	mono/stereo	(0 ~ 1)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	7	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	9	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	10	

17 TEMPO PHASER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd, Whole/3, 2nd., 4thx4, 4thx5, 4thx6, 4thx7, 4thx8	(5 ~ 21)	1	
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Phase Shift Offset	0 ~ 127	(0 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Stage	4, 5, 6	(4 ~ 6)	5	
6	LFO Phase Reset	off (free run), Key On Reset, SEQ Start Reset	(0 ~ 2)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	7	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	9	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	10	

18 DELAY L, R

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Lch Delay Time	0.1ms ~ 740.0ms	(0 ~ 127)	1	19
2	Rch Delay Time	0.1ms ~ 740.0ms	(0 ~ 127)	2	19
3	Lch Feedback Time	0.1ms ~ 740.0ms	(0 ~ 127)	3	19
4	Rch Feedback Time	0.1ms ~ 740.0ms	(0 ~ 127)	4	19
5	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	7	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	9	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	10	

19 CONTROL DELAY (MONO)

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	0.1ms ~ 1480.0ms	(0 ~ 127)	1	20
2	Delay Transition Rate	1~48	(1 ~ 48)	2	
3	Delay Time Offset	0~127	(0 ~ 127)	3	
4	Control Type	normal, scratch	(0 ~ 1)	4	
5	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	7	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	9	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	10	

20 CONTROL DELAY (STEREO)

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	0.1ms ~ 740.0ms	(0 ~ 127)	1	19
2	Delay Transition Rate	1 ~ 48	(1 ~ 48)	2	
3	Delay Time Offset	0 ~ 127	(0 ~ 127)	3	
4	Control Type	normal, scratch	(0 ~ 1)	4	
5	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	7	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	9	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	10	

21 TEMPO DELAY (MONO) ~ 22 TEMPO DELAY (STEREO)

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	32nd, 16th/3, 32nd., 16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd	(2 ~ 14)	1	
2	Lag	-63ms ~ +63ms	(1 ~ 127)	2	
3	L/R Diffusion	-63ms ~ +63ms	(1 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Feedback High Dump	0.1 ~ 1.0	(1 ~ 10)	5	
6	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	6	3
7	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	7	
8	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	8	3
9	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	9	

23 TEMPO CROSS DELAY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	L→R Delay Time	32nd, 16th/3, 32nd., 16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd	(2 ~ 14)	1	
2	R→L Delay Time	32nd, 16th/3, 32nd., 16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd	(2 ~ 14)	2	
3	Lag	-63ms ~ +63ms	(1 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Feedback High Dump	0.1 ~ 1.0	(1 ~ 10)	5	
6	Input Select	L, R, L&R	(0 ~ 2)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	7	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	9	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	10	

24 CROSS DELAY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	L→R Delay Time	0.1ms ~ 740.0ms	(0 ~ 127)	1	19
2	R→L Delay Time	0.1ms ~ 740.0ms	(0 ~ 127)	2	19
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	4	
5	Input Select	L, R, L&R	(0 ~ 2)	5	
6	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	6	3
7	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	7	
8	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	8	3
9	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	9	

25 ECHO

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Lch Delay1 Time	0.1ms ~ 740.0ms	(0 ~ 127)	1	19
2	Rch Delay1 Time	0.1ms ~ 740.0ms	(0 ~ 127)	2	19
3	Lch Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Rch Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	5	
6	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	6	3
7	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	7	
8	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	8	3
9	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	9	

3. Variation

001 HALL1 ~ 008 PLATE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Reverb Time	0.3s ~ 30.0s	(0 ~ 69)	1	4
2	Initial Delay	0.1ms ~ 99.3ms	(0 ~ 63)	2	5
3	Reverb Delay	0.1ms ~ 99.3ms	(0 ~ 63)	3	5
4	ER/Rev Balance	E63>R ~ E=R ~ E<R63	(1 ~ 127)	4	
5	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	5	3
6	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	6	3
7	Diffusion	0 ~ 10	(0 ~ 10)	7	
8	Density	0 ~ 4	(0 ~ 4)	8	
9	Feedback Level	-63 ~ +63	(1 ~ 127)	9	
10	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	10	

009 DELAY L, C, R

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Lch Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	1	
2	Rch Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	2	
3	Cch Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	3	
4	Feedback Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	5	
5	Feedback Level	-63 ~ +63	(1 ~ 127)	6	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	7	
7	Cch Level	0 ~ 127	(0 ~ 127)	8	
8	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
9	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
10	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
11	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

010 DELAY L, R

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Lch Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	1	
2	Rch Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	2	
3	Lch Feedback Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	3	
4	Rch Feedback Time	0.1ms ~ 1486.0ms	(1 ~ 1486)	4	
5	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

011 ECHO

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Lch Delay1 Time	0.1ms ~ 743.0ms	(1 ~ 7430)	1	
2	Rch Delay1 Time	0.1ms ~ 743.0ms	(1 ~ 7430)	2	
3	Lch Feedback Level	-63 ~ +63	(1 ~ 127)	5	
4	Rch Feedback Level	-63 ~ +63	(1 ~ 127)	6	
5	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	7	
6	Lch Delay2 Time	0.1ms ~ 743.0ms	(1 ~ 7430)	9	
7	Rch Delay2 Time	0.1ms ~ 743.0ms	(1 ~ 7430)	10	
8	Delay2 Level	0 ~ 127	(0 ~ 127)	11	
9	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
10	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
11	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
12	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

012 CROSS DELAY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	L->R Delay Time	0.1ms ~ 743.0ms	(1 ~ 7430)	1	
2	R->L Delay Time	0.1ms ~ 743.0ms	(1 ~ 7430)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	4	
5	Input Select	L, R, L&R	(0 ~ 2)	5	
6	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
7	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
8	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
9	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

013 CONTROL DELAY (MONO)

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	1	
2	Delay Transition Rate	1 ~ 48	(1 ~ 48)	2	
3	Delay Time Offset	0 ~ 127	(0 ~ 127)	3	
4	Control Type	normal, scratch	(0 ~ 1)	4	
5	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

014 CONTROL DELAY (STEREO)

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	0.1ms ~ 743.0ms	(1 ~ 7430)	1	
2	Delay Transition Rate	1 ~ 48	(1 ~ 48)	2	
3	Delay Time Offset	0 ~ 127	(0 ~ 127)	3	
4	Control Type	normal, scratch	(0 ~ 1)	4	
5	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

015 TEMPO DELAY (MONO) ~ 016 TEMPO DELAY (STEREO)

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	32nd, 16th/3, 32nd., 16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd	(2 ~ 14)	1	
2	Lag	-63ms ~ +63ms	(1 ~ 127)	2	
3	L/R Diffusion	-63ms ~ +63ms	(1 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
5	Feedback High Dump	0.1 ~ 1.0	(1 ~ 10)	6	
6	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
7	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
8	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
9	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

017 TEMPO CROSS DELAY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	L->R Delay Time	32nd, 16th/3, 32nd., 16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd	(2 ~ 14)	1	
2	R->L Delay Time	32nd, 16th/3, 32nd., 16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd	(2 ~ 14)	2	
3	Lag	-63ms ~ +63ms	(1 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
5	Feedback High Dump	0.1 ~ 1.0	(1 ~ 10)	6	
6	Input Select	L, R, L&R	(0 ~ 2)	8	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

018 EARLY REFLECTION1 ~ 019 EARLY REFLECTION2

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Type	S-hall, L-hall, random, reverse, plate, spring	(0 ~ 5)	1	
2	Room Size	0.1 ~ 20.0	(0 ~ 127)	2	6
3	Initial Delay	0.1ms ~ 200.0ms	(0 ~ 127)	3	5
4	Liveness	0 ~ 10	(0 ~ 10)	4	
5	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	5	3
6	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	6	3
7	Diffusion	0 ~ 10	(0 ~ 10)	7	
8	Density	0 ~ 3	(0 ~ 3)	8	
9	Feedback Level	-63 ~ +63	(1 ~ 127)	9	
10	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	10	

020 GATE REVERB ~ 021 REVERSE GATE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Type	type-A, type-B	(0 ~ 1)	1	
2	Room Size	0.1 ~ 20.0	(0 ~ 127)	2	6
3	Initial Delay	0.1ms ~ 200.0ms	(0 ~ 127)	3	5
4	Liveness	0 ~ 10	(0 ~ 10)	4	
5	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	5	3
6	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	6	3
7	Diffusion	0 ~ 10	(0 ~ 10)	7	
8	Density	0 ~ 3	(0 ~ 3)	8	
9	Feedback Level	-63 ~ +63	(1 ~ 127)	9	
10	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	10	

022 KARAOKE 1 ~ 024 KARAOKE 3

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	0.1ms ~ 400.0ms	(0 ~ 127)	1	7
2	Feedback Level	-63 ~ +63	(1 ~ 127)	2	
3	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	3	3
4	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	4	3

025 CHORUS 1 ~ 033 CELESTE 4

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Delay Offset	0.0ms ~ 50.0ms	(0 ~ 127)	4	2
5	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
6	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
7	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
8	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	9	3
10	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	10	
11	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	11	
12	Input Mode	mono/stereo	(0 ~ 1)	12	

034 SYMPHONIC

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Delay Offset	0.0ms ~ 50.0ms	(0 ~ 127)	3	2
4	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
5	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
6	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
7	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	
8	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	9	3
9	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	10	
10	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	11	

035 ENSEMBLE DETUNE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Detune	-50cent ~ +50cent	(14 ~ 114)	1	
2	Lch Initial Delay	0.0ms ~ 50.0ms	(0 ~ 127)	2	2
3	Rch Initial Delay	0.0ms ~ 50.0ms	(0 ~ 127)	3	2
4	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
5	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
6	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
7	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	

036 FLANGER 1 ~ 038 FLANGER 3

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Delay Offset	0.0ms ~ 50.0ms	(0 ~ 127)	4	2
5	LFO Phase Difference	-180deg ~ +180deg	(4 ~ 124)	5	
6	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	6	3
7	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	7	
8	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	8	
9	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
10	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
11	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
12	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

039 V-FLANGER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	LFO Wave	Triangle, Sine, Random	(0 ~ 2)	3	
4	Analog Feel	0 ~ 10	(0 ~ 10)	4	
5	Feedback Level	-100 ~ +100%	(0 ~ 200)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	Delay offset	0.09 ~ 36.21ms	(0 ~ 139)	7	
8	Modulation Phase	-180 ~ +180	(0 ~ 16)	8	
9	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
10	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
11	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
12	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	
13	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	13	3
14	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	14	
15	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	15	

040 TEMPO FLANGER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd, Whole/3, 2nd., 4thx4, 4thx5, 4thx6, 4thx7, 4thx8	(5 ~ 21)	1	
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Delay offset	0.0ms ~ 50.0ms	(0 ~ 127)	4	2
5	LFO Phase Difference	-180deg ~ +180deg	(4 ~ 124)	5	
6	LFO Phase Reset	off (free run), Key On Reset, SEQ Start Reset	(0 ~ 2)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	
11	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	13	3
12	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	14	
13	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	15	

41 DYNAMIC FLANGER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitivity	0 ~ 127	(0 ~ 127)	1	
2	Delay Time Offset	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Direction	up, down	(0 ~ 1)	5	
5	Attack Time	0.3ms ~ 227ms	(0 ~ 127)	6	17
6	Release Time	2.6ms ~ 2171ms	(0 ~ 127)	7	18
7	Release Curve	0 ~ 127	(0 ~ 127)	8	
8	Dyna Threshold Level	0 ~ 127	(0 ~ 127)	9	
9	Dyna Level Offset	0 ~ 127	(0 ~ 127)	10	
10	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
11	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
12	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
13	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

42 PHASER 1

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Phase Shift Offset	0 ~ 127	(0 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Stage	4, 5, 6, 7, 8, 9, 10, 11, 12	(4 ~ 12)	5	
6	Diffusion	mono/stereo	(0 ~ 1)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

043 PHASER 2

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Phase Shift Offset	0 ~ 127	(0 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Stage	3, 4, 5, 6	(3 ~ 6)	5	
6	LFO Phase Difference	-180deg ~ +180deg	(4 ~ 124)	6	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

44 TEMPO PHASER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	16th, 8th/3, 16th., 8th, 4th/3, 8th., 4th, 2th/3, 4th., 2nd, Whole/3, 2nd., 4thx4, 4thx5, 4thx6, 4thx7, 4thx8	(5 ~ 21)	1	
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Phase Shift Offset	0 ~ 127	(0 ~ 127)	3	
4	Feedback Level	-63 ~ +63	(1 ~ 127)	4	
5	Stage	3, 4, 5, 6	(3 ~ 6)	5	
6	LFO Phase Reset	off (free run), Key On Reset, SEQ Start Reset	(0 ~ 2)	6	
7	LFO Phase Difference (deg)	-180deg ~ +180deg	(4 ~ 124)	7	
8	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
9	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
10	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
11	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

045 DYNAMIC PHASER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitivity	0 ~ 127	(0 ~ 127)	1	
2	Dyna Level Offset	0 ~ 127	(0 ~ 127)	2	
3	Feedback Level	-63 ~ +63	(1 ~ 127)	3	
4	Stage	4, 5, 6	(4 ~ 6)	4	
5	Direction	up, down	(0 ~ 1)	5	
6	Attack Time	0.3ms ~ 227ms	(0 ~ 127)	6	17
7	Release Time	2.6ms ~ 2171ms	(0 ~ 127)	7	18
8	Release Curve	0 ~ 127	(0 ~ 127)	8	
9	Dyna Threshold Level	0 ~ 127	(0 ~ 127)	9	
10	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
11	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
12	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
13	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

046 TREMOLO

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	AM Depth	0 ~ 127	(0 ~ 127)	2	
3	PM Depth	0 ~ 127	(0 ~ 127)	3	
4	LFO Phase Difference	-180deg ~ +180deg	(4 ~ 124)	4	
5	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
6	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
7	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
8	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	9	3
10	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	10	
11	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	11	
12	Input Mode	mono/stereo	(0 ~ 1)	12	

047 AUTO PAN

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	L/R Depth	0 ~ 127	(0 ~ 127)	2	
3	F/R Depth	0 ~ 127	(0 ~ 127)	3	
4	PAN Direction	L<>R, L>>R, L<<R, Lturn, Rturn, L/R	(0 ~ 5)	4	
5	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
6	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
7	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
8	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	9	3
10	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	10	
11	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	11	

048 ROTARY SPEAKER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
4	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
5	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
6	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	
7	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	9	3
8	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	11	

049 DISTORTION+ROTARY SPEAKER ~ 050 OVERDRIVE+ROTARY SPEAKER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Drive	0 ~ 127	(0 ~ 127)	5	
4	Drive LPF Cutoff Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	6	3
5	Drive Output Level	0 ~ 127	(0 ~ 127)	7	
6	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
7	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
8	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
9	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

051 AMP SIM.+ROTARY SPEAKER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Amp Type	off, stack, combo, tube	(0 ~ 3)	5	
4	Amp Drive	0 ~ 127	(0 ~ 127)	6	
5	Amp LPF Cutoff Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	7	3
6	Amp Output Level	0 ~ 127	(0 ~ 127)	8	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

052 2WAY ROTARY SPEAKER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Rotor Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	Drive Low	0 ~ 127	(0 ~ 127)	2	
3	Drive High	0 ~ 127	(0 ~ 127)	3	
4	Divide Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	5	3
5	Low/High Balance	L63>H ~ L=H ~ L<H63	(1 ~ 127)	6	
6	Mic L-R Angle	0deg ~ 180deg	(0 ~ 60)	7	
7	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
8	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
10	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

053 DISTORTION+2WAY ROTARY SPEAKER ~ 054 OVERDRIVE+2WAY ROTARY SPEAKER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Rotor Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	Drive Low	0 ~ 127	(0 ~ 127)	2	
3	Drive High	0 ~ 127	(0 ~ 127)	3	
4	Divide Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	5	3
5	Low/High Balance	L63>H ~ L=H ~ L<H63	(1 ~ 127)	6	
6	Mic L-R Angle	0deg ~ 180deg	(0 ~ 60)	7	
7	Drive	0 ~ 127	(0 ~ 127)	9	
8	Drive LPF Cutoff Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	10	3
9	Drive Output Level	0 ~ 127	(0 ~ 127)	11	
10	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
11	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
12	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
13	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

055 AMP SIM.+2WAY ROTARY SPEAKER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Rotor Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	Drive Low	0 ~ 127	(0 ~ 127)	2	
3	Drive High	0 ~ 127	(0 ~ 127)	3	
4	Divide Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	5	3
5	Low/High Balance	L63>H ~ L=H ~ L<H63	(1 ~ 127)	6	
6	Mic L-R Angle	0deg ~ 180deg	(0 ~ 60)	7	
7	Amp Type	off, stack, combo, tube	(0 ~ 3)	9	
8	Amp Drive	0 ~ 127	(0 ~ 127)	10	
9	Amp LPF Cutoff Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	11	3
10	Amp Output Level	0 ~ 127	(0 ~ 127)	12	
11	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
12	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
13	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
14	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

056 DUAL ROTOR SPEAKER1 ~ 057 DUAL ROTOR SPEAKER2

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Speed Control	slow, fast	(0 ~ 1)	1	
2	Slow-Fast Time of Rotor	0 ~ 127	(0 ~ 127)	3	
3	Slow-Fast Time of Horn	0 ~ 127	(0 ~ 127)	4	
4	Rotor Speed Slow	0.0Hz ~ 2.65Hz	(0 ~ 63)	5	1
5	Horn Speed Slow	0.0Hz ~ 2.65Hz	(0 ~ 63)	6	1
6	Rotor Speed Fast	2.692Hz ~ 39.70Hz	(64 ~ 127)	7	1
7	Horn Speed Fast	2.692Hz ~ 39.70Hz	(64 ~ 127)	8	1
8	Drive Low	0 ~ 127	(0 ~ 127)	9	
9	Drive High	0 ~ 127	(0 ~ 127)	10	
10	Low/High Balance	L63>H ~ L=H ~ L<H63	(1 ~ 127)	11	
11	Mic L-R Angle	0deg ~ 180deg	(0 ~ 60)	12	
12	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
13	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
14	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
15	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

058 DISTORTION, 061 OVERDRIVE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Drive	0 ~ 127	(0 ~ 127)	1	
2	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	2	3
3	Output Level	0 ~ 127	(0 ~ 127)	3	
4	Edge	0 ~ 127	(0 ~ 127)	4	
5	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
6	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
7	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	9	3
8	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	10	
9	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	11	

059 COMP DISTORTION

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Threshold	-48dB ~ -6dB	(79 ~ 121)	1	
2	Ratio	1 ~ 20.0	(0 ~ 7)	2	10
3	Attack	1ms ~ 40ms	(0 ~ 19)	3	8
4	Release	10ms ~ 680ms	(0 ~ 15)	4	9
5	Drive	0 ~ 127	(0 ~ 127)	5	
6	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	6	3
7	Output Level	0 ~ 127	(0 ~ 127)	7	
8	Edge	0 ~ 127	(0 ~ 127)	8	
9	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
10	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
11	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	13	3
12	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	14	
13	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	15	

060 V- DISTORTION

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Over Drive	0 ~ 100%	(0 ~ 100)	1	
2	Device	Transistor, Vintage Tube, Dsitortion1, Dsitortion2, Fuzz	(0 ~ 4)	2	
3	Speaker Type	Flat, Stack, Combo, Twin, Radio, Megaphone	(0 ~ 5)	3	
4	Presence	-10 ~ 10	(0 ~ 20)	4	
5	Dist Output Level	0 ~ 100%	(0 ~ 100)	5	
6	Delay Mix	0 ~ 127	(0 ~ 127)	6	
7	Lch Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	7	
8	Rch Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	8	
9	Feedback Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	9	
10	Feedback Level	-63 ~ +63	(1 ~ 127)	10	
11	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	11	

062 AMP SIMULATOR

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	drive	0 ~ 127	(0 ~ 127)	1	
2	AMP type	off, stack, combo, tube	(0 ~ 3)	2	
3	LPF cutoff frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	3	3
4	edge	0 ~ 127	(0 ~ 127)	4	
5	output level	0 ~ 127	(0 ~ 127)	5	

063 DIST+DELAY ~ 064 OVERDRIVE+DELAY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Dist Drive	0 ~ 127	(0 ~ 127)	1	
2	Dist Output Level	0 ~ 127	(0 ~ 127)	2	
3	Dist EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	3	
4	Dist EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	4	
5	Delay Time L	0.1ms ~ 1486.0ms	(1 ~ 14860)	5	
6	Delay Time R	0.1ms ~ 1486.0ms	(1 ~ 14860)	6	
7	Delay Feedback Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	7	
8	Delay Feedback Level	-63 ~ +63	(1 ~ 127)	8	
9	Delay Mix	0 ~ 127	(0 ~ 127)	9	

065 COMPRESSOR

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Threshold	-48dB ~ -6dB	(79 ~ 121)	1	
2	Ratio	1 ~ 20.0	(0 ~ 7)	2	10
3	Output Level	0 ~ 127	(0 ~ 127)	3	
4	Attack	1ms ~ 40ms	(0 ~ 19)	5	8
5	Release	10ms ~ 680ms	(0 ~ 15)	6	9

066 NOISE GATE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Threshold	-72dB ~ -30dB	(55 ~ 97)	1	
2	Output Level	0 ~ 127	(0 ~ 127)	2	
3	Attack	1ms ~ 40ms	(0 ~ 19)	3	8
4	Release	10ms ~ 680ms	(0 ~ 15)	4	9

067 COMP+DIST+DELAY ~ 068 COMP+OVERDRIVE+DELAY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Comp Threshold	-48dB ~ -6dB	(79 ~ 121)	1	
2	Comp Ratio	1 ~ 20.0	(0 ~ 7)	2	10
3	Comp Attack	1ms ~ 40ms	(0 ~ 19)	3	8
4	Comp Release	10ms ~ 680ms	(0 ~ 15)	4	9
5	Drive	0 ~ 127	(0 ~ 127)	5	
6	Drive Output Level	0 ~ 127	(0 ~ 127)	6	
7	Drive EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	7	
8	Drive EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	9	
10	Delay Feedback Level	-63 ~ +63	(1 ~ 127)	10	
11	Delay Mix	0 ~ 127	(0 ~ 127)	11	

069 MULTI COMPRESSOR1

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Type	Normal, Low, Mid, High, Low/High, Low/Mid, Mid/High, Full Bit, Wild, Attacky, Low End, Hard	(0 ~11)	1	
2	Low Gain Offset	-63 ~ +63	(1 ~ 127)	2	
3	Mid Gain Offset	-63 ~ +63	(1 ~ 127)	3	
4	High Gain Offset	-63 ~ +63	(1 ~ 127)	4	
5	Threshold Offset	-32 ~ +32	(32 ~ 96)	5	

070 MULTI COMPRESSOR2

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Low Gain	-∞ ~ +18dB	(0 ~ 55)	1	14
2	Mid Gain	-∞ ~ +18dB	(0 ~ 55)	2	14
3	High Gain	-∞ ~ +18dB	(0 ~ 55)	3	14
4	Divide Freq	32Hz,1.2kHz ~ 630Hz,10.0kHz	(0 ~ 89)	4	15
5	Low Threshold	-54dB ~ -6dB	(73 ~ 121)	5	
6	Low Ratio	1 ~ 20.0	(0 ~ 7)	6	10
7	Low Attack	1ms ~ 200ms	(0 ~ 29)	7	8
8	Low Release	10ms ~ 3000ms	(0 ~ 15)	8	9
9	Mid Threshold	-54dB ~ -6dB	(73 ~ 121)	9	
10	Mid Ratio	1 ~ 20.0	(0 ~ 7)	10	10
11	Mid Attack	1ms ~ 200ms	(0 ~ 29)	11	8
12	Mid Release	10ms ~ 3000ms	(0 ~ 15)	12	9
13	High Threshold	-54dB ~ -6dB	(73 ~ 121)	13	
14	High Ratio	1 ~ 20.0	(0 ~ 7)	14	10
15	High Attack	1ms ~ 200ms	(0 ~ 29)	15	8
16	High Release	10ms ~ 3000ms	(0 ~ 15)	16	9

071 PITCH CHANGE1 ~ 072 PITCH CHANGE2
In [072] PITCH CHANGE2, the unit of Fine1 and Fine2 (numbers 2 and 3) is cent.

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Pitch	-24 ~ +24	(40 ~ 88)	1	
2	Fine1	-50 ~ +50	(14 ~ 114)	2	
3	Fine2	-50 ~ +50	(14 ~ 114)	3	
4	Initial Delay	0.1ms ~ 248.9ms	(0 ~ 79)	5	7
5	Feedback Level	-63 ~ +63	(1 ~ 127)	6	
6	Pan1	L63 ~ C ~ R63	(1 ~ 127)	9	
7	Output Level1	0 ~ 127	(0 ~ 127)	10	
8	Pan2	L63 ~ C ~ R63	(1 ~ 127)	11	
9	Output Level2	0 ~ 127	(0 ~ 127)	12	

073 AUTO WAH

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Cutoff Frequency Offset	0 ~ 127	(0 ~ 127)	3	
4	Resonance	1 ~ 12.0	(10 ~ 120)	4	
5	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
6	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
7	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
8	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	

074 AUTO WAH+DIST ~ 075 AUTO WAH+OVERDRIVE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	1	1
2	LFO Depth	0 ~ 127	(0 ~ 127)	2	
3	Cutoff Frequency Offset	0 ~ 127	(0 ~ 127)	3	
4	Resonance	1 ~ 12.0	(10 ~ 120)	4	
5	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
6	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
7	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
8	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	Drive	0 ~ 127	(0 ~ 127)	9	
10	Drive LPF Cutoff Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	10	3
11	Drive Low Gain	-12dB ~ +12dB	(52 ~ 76)	11	
12	Drive Mid Gain	-12dB ~ +12dB	(52 ~ 76)	12	
13	Drive Output Level	0 ~ 127	(0 ~ 127)	13	

076 TOUCH WAH

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitive	0 ~ 127	(0 ~ 127)	1	
2	Cutoff Frequency Offset	0 ~ 127	(0 ~ 127)	2	
3	Resonance	1 ~ 12.0	(10 ~ 120)	3	
4	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
5	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
6	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
7	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	

077 TOUCH WAH+DIST ~ 078 TOUCH WAH+OVERDRIVE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitive	0 ~ 127	(0 ~ 127)	1	
2	Cutoff Frequency Offset	0 ~ 127	(0 ~ 127)	2	
3	Resonance	1 ~ 12.0	(10 ~ 120)	3	
4	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
5	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
6	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
7	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	
8	Drive	0 ~ 127	(0 ~ 127)	9	
9	Drive LPF Cutoff Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	10	3
10	Drive Low Gain	-12dB ~ +12dB	(52 ~ 76)	11	
11	Drive Mid Gain	-12dB ~ +12dB	(52 ~ 76)	12	
12	Drive Output Level	0 ~ 127	(0 ~ 127)	15	

079 WAH+DIST+DELAY ~ 080 WAH+OVERDRIVE+DELAY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Wah Sensitive	0 ~ 127	(0 ~ 127)	1	
2	Wah Cutoff Frequency	0 ~ 127	(0 ~ 127)	2	
3	Wah Resonance	1 ~ 12.0	(10 ~ 120)	3	
4	Wah Release	10ms ~ 680ms	(52 ~ 67)	4	12
5	Dist Drive	0 ~ 127	(0 ~ 127)	5	
6	Dist Output Level	0 ~ 127	(0 ~ 127)	6	
7	Dist EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	7	
8	Dist EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	8	
9	Delay Time	0.1ms ~ 1486.0ms	(1 ~ 14860)	9	
10	Delay Feedback Level	-63 ~ +63	(1 ~ 127)	10	
11	Delay Mix	0 ~ 127	(0 ~ 127)	11	

081 LO-FI

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sampling Freq. Control	44.1kHz ~ 344.5Hz	(0 ~ 127)	1	
2	Word Length	1 ~ 127	(1 ~ 127)	2	
3	Output Gain	-6dB ~ +36dB	(0 ~ 42)	3	
4	Filter Type	thru, Power Bass, Radio, Telephone, Clean, Low	(0 ~ 5)	4	
5	Pre-LPF Cutoff Freq	63Hz ~ 20.0kHz	(10 ~ 60)	5	3
6	Pre-LPF Resonance	1 ~ 12.0	(10 ~ 120)	6	
7	Bit Assign	0 ~ 6	(0 ~ 6)	7	
8	Emphasis	off/on	(0 ~ 1)	8	
9	Input Mode	mono/stereo	(0 ~ 1)	9	

082 LOW RESOLUTION

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Mod Depth	0 ~ 127	(0 ~ 127)	1	
2	Mod Delay Offset	1 ~ 127	(1 ~ 127)	2	
3	Mod Feedback	-63 ~ +63	(1 ~ 127)	3	
4	Resolution	1,1/2 ~ 1/128	(0 ~ 7)	4	
5	Mod Mix Balance	0 ~ 127	(0 ~ 127)	5	
6	Phase Inverse R	off, wet	(0 ~ 1)	6	

083 NOISY

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Drive	0 ~ 127	(0 ~ 127)	1	
2	Mod Depth	0 ~ 10	(0 ~ 10)	2	
3	Mod Speed	0 ~ 127	(0 ~ 127)	3	
4	Mod Feedback	-63 ~ +63	(1 ~ 127)	4	
5	AM Speed	0.00Hz ~ 39.7Hz	(0 ~ 127)	5	1
6	AM Depth	0 ~ 127	(0 ~ 127)	6	
7	Mod Mix Balance	1 ~ 127	(1 ~ 127)	7	
8	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	9	3
9	LPF Resonance	1.0 ~ 12.0	(10 ~ 120)	10	
10	EQ Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	13	3
11	EQ Gain	-12 ~ +12dB	(52 ~ 76)	14	
12	EQ Width	1.0 ~ 12.0	(10 ~ 120)	15	

084 ATTACK LO-FI

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitive	0 ~ 127	(0 ~ 127)	1	
2	Resolution	1,1/2 ~ 1/32	(0 ~ 5)	2	
3	Peak Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	3	3
4	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	4	3
5	Flanger Mix Balance	1 ~ 127	(1 ~ 127)	5	
6	Flanger Speed	0.00Hz ~ 39.7Hz	(0 ~ 127)	6	1
7	Flanger LFO Wave	tri, sine, saw up, saw down	(0 ~ 3)	7	
8	Flanger Depth	0 ~ 127	(0 ~ 127)	9	
9	Flanger Depth Ofst R	-63 ~ +63	(1 ~ 127)	10	
10	Flanger Delay	0.1 ~ 650.0ms	(1 ~ 6500)	11	
11	Flanger Delay Ofst R	0 ~ -884	(0 ~ 884)	12	
12	Flanger Feedback	-63 ~ +63	(1 ~ 127)	13	
13	Flanger Feedback Ofst R	-63 ~ +63	(1 ~ 127)	14	
14	Flanger Feedback HiDamp	0.1 ~ 1.0	(1 ~ 10)	15	
15	Feedback HiDamp Ofst R	-0.9 ~ +0.9	(1 ~ 19)	16	

085 DIGITAL TURNTABLE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Click Density	0 ~ 5	(0 ~ 5)	1	
2	Click Level	0 ~ 127	(0 ~ 127)	2	
3	Noise Tone	0 ~ 6	(0 ~ 6)	3	
4	Noise Mod Speed	0.00Hz ~ 39.7Hz	(0 ~ 127)	4	1
5	Noise Mod Depth	0 ~ 127	(0 ~ 127)	5	
6	Dry Send to Noise	0 ~ 127	(0 ~ 127)	6	
7	Noise LPF Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	7	3
8	Noise LPF Q	1.0 ~ 12.0	(10 ~ 120)	8	
9	Noise Level	0 ~ 127	(0 ~ 127)	9	
10	Dry LPF Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	10	3
11	Dry Level	0 ~ 127	(0 ~ 127)	11	

086 DIGITAL SCRATCH

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Input Level	0 ~ 127	(0 ~ 127)	1	
2	Initial Delay	0.1 ~ 460.0ms	(1 ~ 4600)	2	
3	Scratch Speed	1 ~ 127	(1 ~ 127)	3	
4	Scratch Depth	0 ~ 127	(0 ~ 127)	4	
5	Auto Pan Speed	0.00Hz ~ 39.7Hz	(0 ~ 127)	5	1
6	Auto Pan Depth	0 ~ 127	(0 ~ 127)	6	
7	EQ Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	9	3
8	EQ Gain	-12 ~ +12dB	(52 ~ 76)	10	
9	EQ Width	1.0 ~ 12.0	(10 ~ 120)	11	
10	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	12	3

087 AUTO SYNTH

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Mod Speed	0 ~ 127	(0 ~ 127)	1	
2	Mod Wave Type	typeA, typeB, typeC, typeD	(0 ~ 3)	2	
3	Mod Depth	0 ~ 127	(0 ~ 127)	3	
4	Mod Depth Ofst R	-63 ~ +63	(1 ~ 127)	4	
5	LPF Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	5	3
6	HPF Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	6	3
7	Dry Mix Level	0 ~ 127	(0 ~ 127)	7	
8	Delay Time	0.1 ~ 370.0ms	(1 ~ 3700)	8	
9	Delay Time Ofst R	0 ~ 884	(0 ~ 884)	9	
10	Feedback Level	-63 ~ +63	(1 ~ 127)	10	
11	FB Level Ofst R	-63 ~ +63	(1 ~ 127)	11	
12	Delay Level	0 ~ 127	(0 ~ 127)	12	
13	AM Speed	0.00Hz ~ 39.7Hz	(0 ~ 127)	13	1
14	AM Wave	tri, sine, saw up, saw down	(0 ~ 3)	14	
15	AM Depth	0 ~ 127	(0 ~ 127)	15	
16	AM Inverse R	normal, inverse	(0 ~ 1)	16	

088 TECH MODULATION

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Mod Speed	0 ~ 127	(0 ~ 127)	1	
2	Mod Depth	0 ~ 127	(0 ~ 127)	2	
3	Pre Mod HPF Cutoff Freq	20Hz ~ 8.0kHz	(0 ~ 52)	3	3
4	Mod Gain	-12 ~ +12dB	(52 ~ 76)	4	
5	Mod LPF Cutoff Freq	1.0kHz ~ 20.0kHz	(34 ~ 60)	5	3
6	Mod LPF Resonance	1.0 ~ 12.0	(10 ~ 120)	6	
7	Mod Mix Balance	D63>W ~ D=W ~ D<W63	(1 ~ 127)	7	
8	Delay Time	0.1 ~ 740.0ms	(1 ~ 7400)	9	
9	Delay Time Ofst R	0 ~ 884	(0 ~ 884)	10	
10	Feedback Level	-63 ~ +63	(1 ~ 127)	11	
11	Feedback Level Ofst R	-63 ~ +63	(1 ~ 127)	12	
12	Feedback Hi Damp	0.1 ~ 1.0	(1 ~ 10)	13	
13	Feedback Hi Damp Ofst R	-0.9 ~ +0.9	(1 ~ 19)	14	

089 JUMP

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Depth	0 ~ 127	(0 ~ 127)	1	
2	Speed	0 ~ 127	(0 ~ 127)	2	
3	Direction	L<>R, L>>R	(0 ~ 1)	3	
4	Type	typeA, typeB, typeC	(0 ~ 2)	4	
5	Jump Wave Type	typeA, typeB, typeC, typeD	(0 ~ 3)	5	
6	Resolution	1,1/2 ~ 1/256	(0 ~ 8)	6	
7	LPF Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	7	3
8	HPF Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	8	3

090 ISOLATION

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	On/off SW	off, on	(0 ~ 1)	1	
2	Low Level	-64 ~ +63	(0 ~ 127)	2	
3	Mid Level	-64 ~ +63	(0 ~ 127)	3	
4	High Level	-64 ~ +63	(0 ~ 127)	4	
5	Low Mute	off/on	(0 ~ 1)	5	
6	Mid Mute	off/on	(0 ~ 1)	6	
7	High Mute	off/on	(0 ~ 1)	7	

091 SLICE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Divide Type	4th, 8th, 16th	(0 ~ 2)	1	
2	Gate Time	0 ~ 100%	(0 ~ 100)	2	
3	Divide Min Level	0 ~ 127	(0 ~ 127)	3	
4	Drive	0 ~ 127	(0 ~ 127)	4	
5	Pan AEG Type	A ~ E	(0 ~ 4)	5	
6	Pan AEG Min Level	0 ~ 127	(0 ~ 127)	6	
7	Pan Type	A ~ J	(0 ~ 9)	7	
8	Pan Depth	-63 ~ +63	(1 ~ 127)	8	
9	AEG Phase	0 ~ 15 (×16^{th} note)	(0 ~ 15)	9	
10	EQ low frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
11	EQ low gain	-12dB ~ +12dB	(52 ~ 76)	14	
12	EQ high frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
13	EQ high gain	-12dB ~ +12dB	(52 ~ 76)	16	

092 3-BAND EQ

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	EQ Low Frequency	50Hz ~ 2.0kHz	(8 ~ 40)	1	3
2	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	2	
3	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	3	3
4	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	4	
5	EQ Mid Frequency	100Hz ~ 10.0kHz	(14 ~ 54)	5	3
6	EQ Mid Gain	-12dB ~ +12dB	(52 ~ 76)	6	
7	EQ Mid Width	0.1 ~ 12.0	(1 ~ 120)	7	
8	Input Mode	mono/stereo	(0 ~ 1)	8	

093 2-BAND EQ

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	1	3
2	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	2	
3	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	3	3
4	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	4	

094 HARMONIC ENHANCER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	HPF Cutoff Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	1	3
2	Drive	0 ~ 127	(0 ~ 127)	2	
3	Mix Level	0 ~ 127	(0 ~ 127)	3	

095 VOICE CANCEL

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Low Adjust	0 ~ 26	(0 ~ 26)	1	
2	High Adjust	0 ~ 26	(0 ~ 26)	2	

096 AMBIENCE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	0.0ms ~ 50.0ms	(0 ~ 127)	1	2
2	Wet Output Phase	normal/inverse	(0 ~ 1)	2	
3	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	5	3
4	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	6	
5	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	7	3
6	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	8	

097 TALKING MODULATOR

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Vowel	a/i/u/e/o	(0 ~ 4)	1	
2	Move Speed	1 ~ 62	(1 ~ 62)	2	
3	Drive	0 ~ 127	(0 ~ 127)	3	
4	Output Level	0 ~ 127	(0 ~ 127)	4	

098 RING MODULATOR

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Carrier Freq Coarse	0.5 - 5kHz	(0 ~ 127)	1	16
2	Carrier Freq Fine	0 ~ 127	(0 ~ 127)	2	
3	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	3	3
4	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	4	3
5	LFO Wave	tri, sine	(0 ~ 1)	5	
6	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	6	1
7	LFO Depth	0 ~ 127	(0 ~ 127)	7	
8	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
9	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
10	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
11	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

099 DYNAMIC RING MODULATOR

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitivity	0 ~ 127	(0 ~ 127)	1	
2	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	3	3
3	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	4	3
4	Direction	up, down	(0 ~ 1)	5	
5	Attack Time	0.3ms ~ 227ms	(0 ~ 127)	6	17
6	Release Time	2.6ms ~ 2171ms	(0 ~ 127)	7	18
7	Release Curve	0 ~ 127	(0 ~ 127)	8	
8	Dyna Threshold Level	0 ~ 127	(0 ~ 127)	9	
9	Dyna Level Offset	0 ~ 127	(0 ~ 127)	10	
10	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
11	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
12	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
13	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

100 DYNAMIC FILTER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitivity	0 ~ 127	(0 ~ 127)	1	
2	Filter Type	LPF(12dB),LPF(18dB),LPF(24 dB),HPF, BPF, BEF	(0 ~ 5)	2	
3	Dyna Level Offset	0 ~ 127	(0 ~ 127)	3	
4	Resonance	-16 ~ +111	(0 ~ 127)	4	
5	Direction	up, down	(0 ~ 1)	5	
6	Attack Time	0.3ms ~ 227ms	(0 ~ 127)	6	17
7	Release Time	2.6ms ~ 2171ms	(0 ~ 127)	7	18
8	Release Curve	0 ~ 127	(0 ~ 127)	8	
9	Dyna Threshold Level	0 ~ 127	(0 ~ 127)	9	
10	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
11	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
12	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
13	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

3. Master

1 ISOLATION

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	On/off SW	off, on	(0 ~ 1)	1	
2	Low Level	-64 ~ +63	(0 ~ 127)	2	
3	Mid Level	-64 ~ +63	(0 ~ 127)	3	
4	High Level	-64 ~ +63	(0 ~ 127)	4	
5	Low Mute	off, on	(0 ~ 1)	5	
6	Mid Mute	off, on	(0 ~ 1)	6	
7	High Mute	off, on	(0 ~ 1)	7	

2 DYNAMIC FILTER

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sensitivity	0 ~ 127	(0 ~ 127)	1	
2	Filter Type	LPF(12dB), LPF(18dB), LPF(24dB), HPF, BPF, BEF	(0 ~ 5)	2	
3	Dyna Level Offset	0 ~ 127	(0 ~ 127)	3	
4	Resonance	-16 ~ +111	(0 ~ 127)	4	
5	Direction	up, down	(0 ~ 1)	5	
6	Attack Time	0.3ms ~ 227ms	(0 ~ 127)	6	17
7	Release Time	2.6ms ~ 2171ms	(0 ~ 127)	7	18
8	Release Curve	0 ~ 127	(0 ~ 127)	8	
9	Dyna Threshold Level	0 ~ 127	(0 ~ 127)	9	
10	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	(1 ~ 127)	10	
11	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
12	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
13	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
14	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

3 CONTROL DELAY (STEREO)

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Delay Time	0.1ms ~ 371.5ms	(1 ~ 3715)	1	
2	Delay Transition Rate	1 ~ 48	(1 ~ 48)	2	
3	Delay Time Offset	0 ~ 127	(0 ~ 127)	3	
4	Control Type	normal, scratch	(0 ~ 1)	4	
5	Feedback Level	-63 ~ +63	(1 ~ 127)	5	
6	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	6	
7	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	(1 ~ 127)	7	
8	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
9	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
10	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
11	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

4 MULTI COMPRESSOR1

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Type	Normal, Low, Mid, High, Low/High, Low/Mid, Mid/High, Full Bit, Wild, Attacky, Low End, Hard	(0 ~ 11)	1	
2	Low Gain Offset	-63 ~ +63	(1 ~ 127)	2	
3	Mid Gain Offset	-63 ~ +63	(1 ~ 127)	3	
4	High Gain Offset	-63 ~ +63	(1 ~ 127)	4	
5	Threshold Offset	-32 ~ +32	(32 ~ 96)	5	

5 RING MODULATOR

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Carrier Freq Coarse	0.5 - 5kHz	(0 ~ 127)	1	16
2	Carrier Freq Fine	0 ~ 127	(0 ~ 127)	2	
3	HPF Cutoff Frequency	20Hz ~ 8.0kHz	(0 ~ 52)	3	3
4	LPF Cutoff Frequency	1.0kHz ~ 20.0kHz	(34 ~ 60)	4	3
5	LFO Wave	tri, sine	(0 ~ 1)	5	
6	LFO Speed	0.0Hz ~ 39.70Hz	(0 ~ 127)	6	1
7	LFO Depth	0 ~ 127	(0 ~ 127)	7	
8	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	(1 ~ 127)	8	
9	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	9	3
10	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	10	
11	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	11	3
12	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	12	

6 V- DISTORTION

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Over Drive	0 ~ 100%	(0 ~ 100)	1	
2	Device	Transistor, Vintage Tube, Dsitortion1, Dsitortion2, Fuzz	(0 ~ 4)	2	
3	Speaker Type	Flat, Stack, Combo, Twin, Radio, Megaphone	(0 ~ 5)	3	
4	Presence	-10 ~ 10	(0 ~ 20)	4	
5	Dist Output Level	0 ~ 100%	(0 ~ 100)	5	
6	Delay Mix	0 ~ 127	(0 ~ 127)	6	
7	Lch Delay Time	0.1ms ~ 743.0ms	(1 ~ 7430)	7	
8	Rch Delay Time	0.1ms ~ 743.0ms	(1 ~ 7430)	8	
9	Feedback Time	0.1ms ~ 743.0ms	(1 ~ 7430)	9	
10	Feedback Level	-63 ~ +63	(1 ~ 127)	10	
11	Feedback High Damp	0.1 ~ 1.0	(1 ~ 10)	11	
12	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	(1 ~ 127)	12	

7 LO-FI

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Sampling Freq. Control	44.1kHz ~ 344.5Hz	(0 ~ 127)	1	13
2	Word Length	1 ~ 127	(1 ~ 127)	2	
3	Output Gain	-6dB ~ +36dB	(0 ~ 42)	3	
4	Filter Type	thru, Power Bass, Radio, Tele-phone, Clean, Low	(0 ~ 5)	4	
5	Pre-LPF Cutoff Freq	63Hz ~ 20.0kHz	(10 ~ 60)	5	3
6	Pre-LPF Resonance	1 ~ 12.0	(10 ~ 120)	6	
7	Bit Assign	0 ~ 6	(0 ~ 6)	7	
8	Emphasis	off/on	(0 ~ 1)	8	
9	Input Mode	mono/stereo	(0 ~ 1)	9	
10	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	(1 ~ 127)	10	

8 SLICE

No.	Parameter	Range	Value	MIDI Parameter Number	Table
1	Divide Type	4th, 8th, 16th	(0 ~ 2)	1	
2	Gate Time	0 ~ 100%	(0 ~ 100)	2	
3	Divide Min Level	0 ~ 127	(0 ~ 127)	3	
4	Drive	0 ~ 127	(0 ~ 127)	4	
5	Pan AEG Type	A ~ E	(0 ~ 4)	5	
6	Pan AEG Min Level	0 ~ 127	(0 ~ 127)	6	
7	Pan Type	A ~ J	(0 ~ 9)	7	
8	Pan Depth	-63 ~ +63	(1 ~ 127)	8	
9	AEG Phase	0 ~ 15 (× 16th note)	(0 ~ 15)	9	
10	Dry/Wet Balance	D63>W ~ D=W ~ D<W63	(1 ~ 127)	10	
11	EQ Low Frequency	32Hz ~ 2.0kHz	(4 ~ 40)	13	3
12	EQ Low Gain	-12dB ~ +12dB	(52 ~ 76)	14	
13	EQ High Frequency	500Hz ~ 16.0kHz	(28 ~ 58)	15	3
14	EQ High Gain	-12dB ~ +12dB	(52 ~ 76)	16	

10. Effect Data/Value Table

Table#1
LFO Frequency

Data	Value	Data	Value	Data	Value
0	0.00	43	1.81	86	5.38
1	0.04	44	1.85	87	5.55
2	0.08	45	1.89	88	5.72
3	0.13	46	1.94	89	6.06
4	0.17	47	1.98	90	6.39
5	0.21	48	2.02	91	6.73
6	0.25	49	2.06	92	7.07
7	0.29	50	2.10	93	7.40
8	0.34	51	2.15	94	7.74
9	0.38	52	2.19	95	8.08
10	0.42	53	2.23	96	8.41
11	0.46	54	2.27	97	8.75
12	0.51	55	2.31	98	9.08
13	0.55	56	2.36	99	9.42
14	0.59	57	2.40	100	9.76
15	0.63	58	2.44	101	10.1
16	0.67	59	2.48	102	10.8
17	0.72	60	2.52	103	11.4
18	0.76	61	2.57	104	12.1
19	0.80	62	2.61	105	12.8
20	0.84	63	2.65	106	13.5
21	0.88	64	2.69	107	14.1
22	0.93	65	2.78	108	14.8
23	0.97	66	2.86	109	15.5
24	1.01	67	2.94	110	16.2
25	1.05	68	3.03	111	16.8
26	1.09	69	3.11	112	17.5
27	1.14	70	3.20	113	18.2
28	1.18	71	3.28	114	19.5
29	1.22	72	3.37	115	20.9
30	1.26	73	3.45	116	22.2
31	1.30	74	3.53	117	23.6
32	1.35	75	3.62	118	24.9
33	1.39	76	3.70	119	26.2
34	1.43	77	3.87	120	27.6
35	1.47	78	4.04	121	28.9
36	1.51	79	4.21	122	30.3
37	1.56	80	4.37	123	31.6
38	1.60	81	4.54	124	33.0
39	1.64	82	4.71	125	34.3
40	1.68	83	4.88	126	37.0
41	1.72	84	5.05	127	39.7
42	1.77	85	5.22		

Table#2
Modulation Delay Offset

Data	Value	Data	Value	Data	Value
0	0.0	43	4.3	86	8.6
1	0.1	44	4.4	87	8.7
2	0.2	45	4.5	88	8.8
3	0.3	46	4.6	89	8.9
4	0.4	47	4.7	90	9.0
5	0.5	48	4.8	91	9.1
6	0.6	49	4.9	92	9.2
7	0.7	50	5.0	93	9.3
8	0.8	51	5.1	94	9.4
9	0.9	52	5.2	95	9.5
10	1.0	53	5.3	96	9.6
11	1.1	54	5.4	97	9.7
12	1.2	55	5.5	98	9.8
13	1.3	56	5.6	99	9.9
14	1.4	57	5.7	100	10.0
15	1.5	58	5.8	101	11.1
16	1.6	59	5.9	102	12.2
17	1.7	60	6.0	103	13.3
18	1.8	61	6.1	104	14.4
19	1.9	62	6.2	105	15.5
20	2.0	63	6.3	106	17.1
21	2.1	64	6.4	107	18.6
22	2.2	65	6.5	108	20.2
23	2.3	66	6.6	109	21.8
24	2.4	67	6.7	110	23.3
25	2.5	68	6.8	111	24.9
26	2.6	69	6.9	112	26.5
27	2.7	70	7.0	113	28.0
28	2.8	71	7.1	114	29.6
29	2.9	72	7.2	115	31.2
30	3.0	73	7.3	116	32.8
31	3.1	74	7.4	117	34.3
32	3.2	75	7.5	118	35.9
33	3.3	76	7.6	119	37.5
34	3.4	77	7.7	120	39.0
35	3.5	78	7.8	121	40.6
36	3.6	79	7.9	122	42.2
37	3.7	80	8.0	123	43.7
38	3.8	81	8.1	124	45.3
39	3.9	82	8.2	125	46.9
40	4.0	83	8.3	126	48.4
41	4.1	84	8.4	127	50.0
42	4.2	85	8.5		

Table#3
EQ Frequency

Data	Value	Data	Value
0	THRU(20)	43	2.8k
1	22	44	3.2k
2	25	45	3.6k
3	28	46	4.0k
4	32	47	4.5k
5	36	48	5.0k
6	40	49	5.6k
7	45	50	6.3k
8	50	51	7.0k
9	56	52	8.0k
10	63	53	9.0k
11	70	54	10.0k
12	80	55	11.0k
13	90	56	12.0k
14	100	57	14.0k
15	110	58	16.0k
16	125	59	18.0k
17	140	60	THRU(20.0k)
18	160		
19	180		
20	200		
21	225		
22	250		
23	280		
24	315		
25	355		
26	400		
27	450		
28	500		
29	560		
30	630		
31	700		
32	800		
33	900		
34	1.0k		
35	1.1k		
36	1.2k		
37	1.4k		
38	1.6k		
39	1.8k		
40	2.0k		
41	2.2k		
42	2.5k		

Table#4
Reverb time

Data	Value	Data	Value
0	0.3	43	4.6
1	0.4	44	4.7
2	0.5	45	4.8
3	0.6	46	4.9
4	0.7	47	5.0
5	0.8	48	5.5
6	0.9	49	6.0
7	1.0	50	6.5
8	1.1	51	7.0
9	1.2	52	7.5
10	1.3	53	8.0
11	1.4	54	8.5
12	1.5	55	9.0
13	1.6	56	9.5
14	1.7	57	10.0
15	1.8	58	11.0
16	1.9	59	12.0
17	2.0	60	13.0
18	2.1	61	14.0
19	2.2	62	15.0
20	2.3	63	16.0
21	2.4	64	17.0
22	2.5	65	18.0
23	2.6	66	19.0
24	2.7	67	20.0
25	2.8	68	25.0
26	2.9	69	30.0
27	3.0		
28	3.1		
29	3.2		
30	3.3		
31	3.4		
32	3.5		
33	3.6		
34	3.7		
35	3.8		
36	3.9		
37	4.0		
38	4.1		
39	4.2		
40	4.3		
41	4.4		
42	4.5		

Table#5
Delay Time (200.0ms)

Data	Value	Data	Value	Data	Value
0	0.1	43	67.8	86	135.5
1	1.7	44	69.4	87	137.0
2	3.2	45	70.9	88	138.6
3	4.8	46	72.5	89	140.2
4	6.4	47	74.1	90	141.8
5	8.0	48	75.7	91	143.3
6	9.5	49	77.2	92	144.9
7	11.1	50	78.8	93	146.5
8	12.7	51	80.4	94	148.1
9	14.3	52	81.9	95	149.6
10	15.8	53	83.5	96	151.2
11	17.4	54	85.1	97	152.8
12	19.0	55	86.7	98	154.4
13	20.6	56	88.2	99	155.9
14	22.1	57	89.8	100	157.5
15	23.7	58	91.4	101	159.1
16	25.3	59	93.0	102	160.6
17	26.9	60	94.5	103	162.2
18	28.4	61	96.1	104	163.8
19	30.0	62	97.7	105	165.4
20	31.6	63	99.3	106	166.9
21	33.2	64	100.8	107	168.5
22	34.7	65	102.4	108	170.1
23	36.3	66	104.0	109	171.7
24	37.9	67	105.6	110	173.2
25	39.5	68	107.1	111	174.8
26	41.0	69	108.7	112	176.4
27	42.6	70	110.3	113	178.0
28	44.2	71	111.9	114	179.5
29	45.7	72	113.4	115	181.1
30	47.3	73	115.0	116	182.7
31	48.9	74	116.6	117	184.3
32	50.5	75	118.2	118	185.8
33	52.0	76	119.7	119	187.4
34	53.6	77	121.3	120	189.0
35	55.2	78	122.9	121	190.6
36	56.8	79	124.4	122	192.1
37	58.3	80	126.0	123	193.7
38	59.9	81	127.6	124	195.3
39	61.5	82	129.2	125	196.9
40	63.1	83	130.7	126	198.4
41	64.6	84	132.3	127	200.0
42	66.2	85	133.9		

Table#6
Room Size

Data	Value	Data	Value
0	0.1	43	6.8
1	0.3	44	7.0
2	0.4		
3	0.6		
4	0.7		
5	0.9		
6	1.0		
7	1.2		
8	1.4		
9	1.5		
10	1.7		
11	1.8		
12	2.0		
13	2.1		
14	2.3		
15	2.5		
16	2.6		
17	2.8		
18	2.9		
19	3.1		
20	3.2		
21	3.4		
22	3.5		
23	3.7		
24	3.9		
25	4.0		
26	4.2		
27	4.3		
28	4.5		
29	4.6		
30	4.8		
31	5.0		
32	5.1		
33	5.3		
34	5.4		
35	5.6		
36	5.7		
37	5.9		
38	6.1		
39	6.2		
40	6.4		
41	6.5		
42	6.7		

Table#7
Delay Time (400.0ms)

Data	Value	Data	Value	Data	Value
0	0.1	43	135.5	86	270.9
1	3.2	44	138.6	87	274.0
2	6.4	45	141.8	88	277.2
3	9.5	46	144.9	89	280.3
4	12.7	47	148.1	90	283.5
5	15.8	48	151.2	91	286.6
6	19.0	49	154.4	92	289.8
7	22.1	50	157.5	93	292.9
8	25.3	51	160.7	94	296.1
9	28.4	52	163.8	95	299.2
10	31.6	53	167.0	96	302.4
11	34.7	54	170.1	97	305.5
12	37.9	55	173.3	98	308.7
13	41.0	56	176.4	99	311.8
14	44.2	57	179.6	100	315.0
15	47.3	58	182.7	101	318.1
16	50.5	59	185.9	102	321.3
17	53.6	60	189.0	103	324.4
18	56.8	61	192.2	104	327.6
19	59.9	62	195.3	105	330.7
20	63.1	63	198.5	106	333.9
21	66.2	64	201.6	107	337.0
22	69.4	65	204.8	108	340.2
23	72.5	66	207.9	109	343.3
24	75.7	67	211.1	110	346.5
25	78.8	68	214.2	111	349.6
26	82.0	69	217.4	112	352.8
27	85.1	70	220.5	113	355.9
28	88.3	71	223.7	114	359.1
29	91.4	72	226.8	115	362.2
30	94.6	73	230.0	116	365.4
31	97.7	74	233.1	117	368.5
32	100.9	75	236.3	118	371.7
33	104.0	76	239.4	119	374.8
34	107.2	77	242.6	120	378.0
35	110.3	78	245.7	121	381.1
36	113.5	79	248.9	122	384.3
37	116.6	80	252.0	123	387.4
38	119.8	81	255.2	124	390.6
39	122.9	82	258.3	125	393.7
40	126.1	83	261.5	126	396.9
41	129.2	84	264.6	127	400.0
42	132.4	85	267.7		

Table#8
Compressor Attack Time

Data	Value
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8
8	9
9	10
10	12
11	14
12	16
13	18
14	20
15	23
16	26
17	30
18	35
19	40
20	50
21	60
22	70
23	80
24	100
25	120
26	140
27	160
28	180
29	200

Table#9
Compressor Release Time

Data	Value
0	10
1	15
2	25
3	35
4	45
5	55
6	65
7	75
8	85
9	100
10	115
11	140
12	170
13	230
14	340
15	680
16	850
17	1000
18	1200
19	1500
20	1700
21	2000
22	2400
23	3000

Table#10
Compressor Ratio

Data	Value
0	1.0
1	1.5
2	2.0
3	3.0
4	5.0
5	7.0
6	10.0
7	20.0

Table#11
Reverb Width; Depth; Hight

Data	Value	Data	Value	Data	Value
0	0.5	43	11.8	86	24.2
1	0.8	44	12.1	87	24.5
2	1.0	45	12.3	88	24.9
3	1.3	46	12.6	89	25.2
4	1.5	47	12.9	90	25.5
5	1.8	48	13.1	91	25.8
6	2.0	49	13.4	92	26.1
7	2.3	50	13.7	93	26.5
8	2.6	51	14.0	94	26.8
9	2.8	52	14.2	95	27.1
10	3.1	53	14.5	96	27.5
11	3.3	54	14.8	97	27.8
12	3.6	55	15.1	98	28.1
13	3.9	56	15.4	99	28.5
14	4.1	57	15.6	100	28.8
15	4.4	58	15.9	101	29.2
16	4.6	59	16.2	102	29.5
17	4.9	60	16.5	103	29.9
18	5.2	61	16.8	104	30.2
19	5.4	62	17.1		
20	5.7	63	17.3		
21	5.9	64	17.6		
22	6.2	65	17.9		
23	6.5	66	18.2		
24	6.7	67	18.5		
25	7.0	68	18.8		
26	7.2	69	19.1		
27	7.5	70	19.4		
28	7.8	71	19.7		
29	8.0	72	20.0		
30	8.3	73	20.2		
31	8.6	74	20.5		
32	8.8	75	20.8		
33	9.1	76	21.1		
34	9.4	77	21.4		
35	9.6	78	21.7		
36	9.9	79	22.0		
37	10.2	80	22.4		
38	10.4	81	22.7		
39	10.7	82	23.0		
40	11.0	83	23.3		
41	11.2	84	23.6		
42	11.5	85	23.9		

Table#12
Wah Release time

Data	Value
52	10
53	15
54	25
55	35
56	45
57	55
58	65
59	75
60	85
61	100
62	115
63	140
64	170
65	230
66	340
67	680

Table#13
LO-FI Sampling Frequency Control

Data	Value	Data	Value	Data	Value
0	44.1k	43	1.00k	86	506.9
1	22.1k	44	980.0	87	501.1
2	14.7k	45	958.7	88	495.5
3	11.0k	46	938.3	89	490.0
4	8.82k	47	918.8	90	484.6
5	7.35k	48	900.0	91	479.3
6	6.30k	49	882.0	92	474.2
7	5.51k	50	864.7	93	469.1
8	4.90k	51	848.1	94	464.2
9	4.41k	52	832.1	95	459.4
10	4.01k	53	816.7	96	454.6
11	3.68k	54	801.8	97	450.0
12	3.39k	55	787.5	98	445.5
13	3.15k	56	773.7	99	441.0
14	2.94k	57	760.3	100	436.6
15	2.76k	58	747.5	101	432.4
16	2.59k	59	735.0	102	428.2
17	2.45k	60	723.0	103	424.0
18	2.32k	61	711.3	104	420.0
19	2.21k	62	700.0	105	416.0
20	2.10k	63	689.1	106	412.1
21	2.00k	64	678.5	107	408.3
22	1.92k	65	668.2	108	404.6
23	1.84k	66	658.2	109	400.9
24	1.76k	67	648.5	110	397.3
25	1.70k	68	639.1	111	393.8
26	1.63k	69	630.0	112	390.3
27	1.58k	70	621.1	113	386.8
28	1.52k	71	612.5	114	383.5
29	1.47k	72	604.1	115	380.2
30	1.42k	73	595.9	116	376.9
31	1.38k	74	588.0	117	373.7
32	1.34k	75	580.3	118	370.6
33	1.30k	76	572.7	119	367.5
34	1.26k	77	565.4	120	364.5
35	1.23k	78	558.2	121	361.5
36	1.19k	79	551.3	122	358.5
37	1.16k	80	544.4	123	355.6
38	1.13k	81	537.8	124	352.8
39	1.10k	82	531.3	125	350.0
40	1.08k	83	525.0	126	347.2
41	1.05k	84	518.8	127	344.5
42	1.03k	85	512.8		

Table#14
Multi Compressor Gain

Data	Value	Data	Value
0	-∞	43	6
1	-60	44	7
2	-57	45	8
3	-54	46	9
4	-51	47	10
5	-48	48	11
6	-45	49	12
7	-42	50	13
8	-39	51	14
9	-36	52	15
10	-33	53	16
11	-30	54	17
12	-27	55	18
13	-24		
14	-23		
15	-22		
16	-21		
17	-20		
18	-19		
19	-18		
20	-17		
21	-16		
22	-15		
23	-14		
24	-13		
25	-12		
26	-11		
27	-10		
28	-9		
29	-8		
30	-7		
31	-6		
32	-5		
33	-4		
34	-3		
35	-2		
36	-1		
37	0		
38	1		
39	2		
40	3		
41	4		
42	5		

Table#15
Divide Frequency

Data	Value1	Value2	Data	Value1	Value2	Data	Value1	Value2
0	32	1.2k	43	160	2.5k	86	630	5.0k
1	32	1.6k	44	160	3.2k	87	630	6.3k
2	32	2.0k	45	160	4.0k	88	630	8.0k
3	32	2.5k	46	160	5.0k	89	630	10.0k
4	32	3.2k	47	160	6.3k			
5	32	4.0k	48	160	8.0k			
6	32	5.0k	49	160	10.0k			
7	32	6.3k	50	250	1.2k			
8	32	8.0k	51	250	1.6k			
9	32	10.0k	52	250	2.0k			
10	63	1.2k	53	250	2.5k			
11	63	1.6k	54	250	3.2k			
12	63	2.0k	55	250	4.0k			
13	63	2.5k	56	250	5.0k			
14	63	3.2k	57	250	6.3k			
15	63	4.0k	58	250	8.0k			
16	63	5.0k	59	250	10.0k			
17	63	6.3k	60	315	1.2k			
18	63	8.0k	61	315	1.6k			
19	63	10.0k	62	315	2.0k			
20	80	1.2k	63	315	2.5k			
21	80	1.6k	64	315	3.2k			
22	80	2.0k	65	315	4.0k			
23	80	2.5k	66	315	5.0k			
24	80	3.2k	67	315	6.3k			
25	80	4.0k	68	315	8.0k			
26	80	5.0k	69	315	10.0k			
27	80	6.3k	70	500	1.2k			
28	80	8.0k	71	500	1.6k			
29	80	10.0k	72	500	2.0k			
30	125	1.2k	73	500	2.5k			
31	125	1.6k	74	500	3.2k			
32	125	2.0k	75	500	4.0k			
33	125	2.5k	76	500	5.0k			
34	125	3.2k	77	500	6.3k			
35	125	4.0k	78	500	8.0k			
36	125	5.0k	79	500	10.0k			
37	125	6.3k	80	630	1.2k			
38	125	8.0k	81	630	1.6k			
39	125	10.0k	82	630	2.0k			
40	160	1.2k	83	630	2.5k			
41	160	1.6k	84	630	3.2k			
42	160	2.0k	85	630	4.0k			

Table#16
Carrier Frequency Coarse

Data	Value	Data	Value	Data	Value
0	0.5	43	47.3	86	514
1	1.5	44	49.9	87	543
2	2.0	45	52.8	88	574
3	2.5	46	55.8	89	607
4	3.5	47	59.0	90	642
5	4.0	48	62.4	91	678
6	4.5	49	65.9	92	717
7	5.5	50	69.7	93	758
8	6.0	51	73.7	94	801
9	6.5	52	77.9	95	847
10	7.5	53	82.3	96	895
11	8.0	54	87.0	97	946
12	8.5	55	92.0	98	1.00k
13	8.9	56	97.2	99	1.05k
14	9.4	57	103	100	1.11k
15	10.0	58	109	101	1.18k
16	10.6	59	115	102	1.24k
17	11.2	60	121	103	1.32k
18	11.8	61	128	104	1.39k
19	12.5	62	136	105	1.47k
20	13.2	63	143	106	1.55k
21	13.9	64	152	107	1.64k
22	14.7	65	160	108	1.74k
23	15.6	66	169	109	1.84k
24	16.5	67	179	110	1.94k
25	17.4	68	189	111	2.05k
26	18.4	69	200	112	2.17k
27	19.4	70	211	113	2.29k
28	20.6	71	224	114	2.43k
29	21.7	72	236	115	2.56k
30	23.0	73	250	116	2.71k
31	24.3	74	264	117	2.87k
32	25.7	75	279	118	3.03k
33	27.1	76	295	119	3.20k
34	28.7	77	312	120	3.39k
35	30.3	78	330	121	3.58k
36	32.0	79	348	122	3.79k
37	33.9	80	368	123	4.00k
38	35.8	81	389	124	4.23k
39	37.8	82	412	125	4.47k
40	40.0	83	435	126	4.73k
41	42.3	84	460	127	5.00k
42	44.7	85	486		

Table#17
Dynamic Attack Time

Data	Value	Data	Value	Data	Value
0	0.3	43	74	86	152
1	0.9	44	76	87	154
2	1.8	45	78	88	156
3	2.7	46	80	89	158
4	3.6	47	81	90	160
5	5.4	48	83	91	161
6	7.2	49	85	92	163
7	9.0	50	87	93	165
8	10	51	89	94	167
9	12	52	90	95	169
10	14	53	92	96	170
11	16	54	94	97	172
12	18	55	96	98	174
13	20	56	98	99	176
14	21	57	100	100	178
15	23	58	101	101	180
16	25	59	103	102	181
17	27	60	105	103	183
18	29	61	107	104	185
19	30	62	109	105	187
20	32	63	110	106	189
21	34	64	112	107	190
22	36	65	114	108	192
23	38	66	116	109	194
24	40	67	118	110	196
25	41	68	120	111	198
26	43	69	121	112	200
27	45	70	123	113	201
28	47	71	125	114	203
29	49	72	127	115	205
30	50	73	129	116	207
31	52	74	130	117	209
32	54	75	132	118	210
33	56	76	134	119	212
34	58	77	136	120	214
35	60	78	138	121	216
36	61	79	140	122	218
37	63	80	141	123	220
38	65	81	143	124	221
39	67	82	145	125	223
40	69	83	147	126	225
41	70	84	149	127	227
42	72	85	150		

Table#18
Dynamic Release Time

Data	Value	Data	Value	Data	Value
0	2.6	43	135	86	847
1	3.0	44	139	87	869
2	3.4	45	143	88	890
3	3.9	46	148	89	912
4	4.3	47	152	90	934
5	4.7	48	156	91	955
6	5.2	49	161	92	977
7	5.6	50	165	93	999
8	6.0	51	169	94	1021
9	6.5	52	174	95	1042
10	6.9	53	178	96	1064
11	7.3	54	182	97	1086
12	7.8	55	187	98	1107
13	8.2	56	195	99	1129
14	8.6	57	217	100	1151
15	13	58	239	101	1173
16	17	59	261	102	1194
17	22	60	282	103	1216
18	26	61	304	104	1238
19	30	62	326	105	1259
20	35	63	347	106	1281
21	39	64	369	107	1303
22	43	65	391	108	1346
23	48	66	413	109	1390
24	52	67	434	110	1433
25	56	68	456	111	1477
26	61	69	478	112	1520
27	65	70	499	113	1563
28	69	71	521	114	1607
29	74	72	543	115	1650
30	78	73	565	116	1694
31	83	74	586	117	1737
32	87	75	608	118	1781
33	91	76	630	119	1824
34	96	77	651	120	1867
35	100	78	673	121	1911
36	104	79	695	122	1954
37	109	80	717	123	1998
38	113	81	738	124	2041
39	117	82	760	125	2085
40	122	83	782	126	2128
41	126	84	803	127	2171
42	130	85	825		

Table#19
Compressor Attack Time

Data	Value	Data	Value	Data	Value
0	1	43	900	86	3100
1	2	44	950	87	3200
2	5	45	1000	88	3300
3	10	46	1050	89	3400
4	15	47	1100	90	3500
5	20	48	1150	91	3600
6	30	49	1200	92	3700
7	40	50	1250	93	3800
8	50	51	1300	94	3900
9	60	52	1350	95	4000
10	70	53	1400	96	4100
11	80	54	1450	97	4200
12	90	55	1500	98	4300
13	100	56	1550	99	4400
14	110	57	1600	100	4500
15	120	58	1650	101	4600
16	130	59	1700	102	4700
17	140	60	1750	103	4800
18	150	61	1800	104	4900
19	160	62	1850	105	5000
20	170	63	1900	106	5100
21	180	64	1950	107	5200
22	190	65	2000	108	5300
23	200	66	2050	109	5400
24	220	67	2100	110	5500
25	240	68	2150	111	5600
26	260	69	2200	112	5700
27	280	70	2250	113	5800
28	300	71	2300	114	5900
29	320	72	2350	115	6000
30	340	73	2400	116	6100
31	360	74	2450	117	6200
32	380	75	2500	118	6300
33	400	76	2550	119	6400
34	450	77	2600	120	6500
35	500	78	2650	121	6600
36	550	79	2700	122	6700
37	600	80	2750	123	6800
38	650	81	2800	124	6900
39	700	82	2850	125	7000
40	750	83	2900	126	7200
41	800	84	2950	127	7400
42	850	85	3000		

Table#20
Delay Time (1480.0ms)

Data	Value	Data	Value	Data	Value
0	1	43	2000	86	6600
1	2	44	2100	87	6800
2	5	45	2200	88	7000
3	10	46	2300	89	7200
4	15	47	2400	90	7400
5	20	48	2500	91	7600
6	30	49	2600	92	7800
7	40	50	2700	93	8000
8	50	51	2800	94	8200
9	60	52	2900	95	8400
10	70	53	3000	96	8600
11	80	54	3100	97	8800
12	90	55	3200	98	9000
13	100	56	3300	99	9200
14	120	57	3400	100	9400
15	140	58	3500	101	9600
16	160	59	3600	102	9800
17	180	60	3700	103	10000
18	200	61	3800	104	10200
19	220	62	3900	105	10400
20	240	63	4000	106	10600
21	260	64	4100	107	10800
22	280	65	4200	108	11000
23	300	66	4300	109	11200
24	350	67	4400	110	11400
25	400	68	4500	111	11600
26	450	69	4600	112	11800
27	500	70	4700	113	12000
28	550	71	4800	114	12200
29	600	72	4900	115	12400
30	700	73	5000	116	12600
31	800	74	5100	117	12800
32	900	75	5200	118	13000
33	1000	76	5300	119	13200
34	1100	77	5400	120	13400
35	1200	78	5500	121	13600
36	1300	79	5600	122	13800
37	1400	80	5700	123	14000
38	1500	81	5800	124	14200
39	1600	82	5900	125	14400
40	1700	83	6000	126	14600
41	1800	84	6200	127	14800
42	1900	85	6400		

11. MIDI Data Format

The RS7000 tone generator and sequencer blocks handle different MIDI events. These are listed separately in the MIDI Data Format as well as in the MIDI Implementation Chart.

● Tone generator block (Voice part)

(1) TRANSMIT FLOW

MIDI OUT (A, B)

[SW1]	NOTE ON/OFF	9nH
[SW2]	KNOB 1 - 31	EnH, BnH
[SW3]	FOOT SW	BnH 40H
[SW4]	SYSTEM EXCLUSIVE MESSAGE <PARAMETER CHANGE>	
	SYSTEM	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
	MULTI PART	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
	EFFECT	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
	AD PART	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
	SYSTEM EXCLUSIVE MESSAGE	
	MIDI MASTER VOLUME	F0H 7FH 7FH 04H 01H llH mmH F7H
	IDENTITY REPLY	F0H 7EH 7FH 06H 02H 43H 00H 41H ddH ddH 00H 00H 00H 01H F7H
	ACTIVE SENSING	FEH

[SW1] Out Select and Out Channel
The output connector and MIDI Transmit Channel can be set for each track in SETUP Out Channel. NOTE ON/OFF will be according to the settings of the current track.

[SW2] Knob 1 - 31 Assign
The SETUP Knob Assign settings specify the track whose [SW1] settings will determine the output connector, and the type of messages that will be output.

[SW3] Foot Switch
This will be output only if the UTILITY Foot Switch function has been set to Sustain.

[SW4] TG Parameter Out
The output connector and output enable/disable are set by the UTILITY Parameter Out setting.

(2) RECEIVE FLOW

MIDI IN → [SW1]

CHANNEL VOICE MASSAGE		
	NOTE OFF	8nH
	NOTE ON/OFF	9nH
	CONTROL CHANGE	BnH
	PROGRAM CHANGE	CnH
	PITCH BEND CHANGE	EnH
CHANNEL MODE MESSAGE		
	ALL SOUND OFF	BnH 78H
	RESET ALL CONTROLLERS	BnH 79H
	ALL NOTE OFF	BnH 7BH
	OMNI MODE OFF	BnH 7CH
	OMNI MODE ON	BnH 7DH
	MONO MODE ON	BnH 7EH
	POLY MODE ON	BnH 7FH
SYSTEM EXCLUSIVE MESSAGE <PARAMETER CHANGE>		
	SYSTEM	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
	EFFECT	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
	MULTI PART	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
	AD PART	F0H 43H 1nH 6AH aaH aaH aaH ddH.....ddH F7H
SYSTEM EXCLUSIVE MESSAGE		
	GM MODE ON	F0H 7EH 7FH 09H 01H F7H
	MIDI MASTER VOLUME	F0H 7FH 7FH 04H 01H llH mmH F7H
	IDENTITY REQUEST	F0H 7EH 0nH 06H 01H F7H
	ACTIVE SENSING	FEH

[SW1] Data received via MIDI is sent to Part = n according to the receive channel.

(3) TRANSMIT/RECEIVE DATA

(3-1) CHANNEL VOICE MESSAGES

(3-1-1) NOTE OFF

STATUS	1000nnnn(8nH)	n = 0 - 15 VOICE CHANNEL NUMBER
NOTE NUMBER	0kkkkkkk	k = 0 (C-2) - 127 (G8)
VELOCITY	0vvvvvvv	v is ignored

Only received.

(3-1-2) NOTE ON/OFF

STATUS	1001nnnn(9nH)	n = 0 - 15 VOICE CHANNEL NUMBER
NOTE NUMBER	0kkkkkkk	k = 0 (C-2) - 127 (G8)
VELOCITY	0vvvvvvv	(v ≠ 0) NOTE ON
	00000000	(v = 0) NOTE OFF

(3-1-3) PROGRAM CHANGE

STATUS	1100nnnn(CnH)	n = 0 - 15 VOICE CHANNEL NUMBER
PROGRAM NUMBER	0ppppppp	p = 0 - 127

(3-1-4) PITCH BEND CHANGE

STATUS	1110nnnn(EnH)	n = 0 - 15 VOICE CHANNEL NUMBER
LSB	0vvvvvvv	PITCH BEND CHANGE LSB
MSB	0vvvvvvv	PITCH BEND CHANGE MSB

14 bit resolution.
MSB
00000000B (00H) Minimum value
01000000B (40H) Center value
01111111B (7FH) Maximum value

If the SETUP Knob Assign parameter assigns this to a knob 1 - 31, this message is transmitted by knob operations.

(3-1-5) CONTROL CHANGE

STATUS	1011nnnn(BnH)	n = 0 - 15 VOICE CHANNEL NUMBER
CONTROL NUMBER	0ccccccc	
CONTROL VALUE	0vvvvvvv	

* Control numbers transmitted

c = 0	BANK SEL MSB	; 0:GM VOICE 63:RS7000 VOICE 64:RS7000 SAMPLE VOICE 126:RS7000 DRUM VOICE 127:GM DRUM
c = 32	BANK SEL LSB	; v = 0 - 127 *3
c = 64	SUSTAIN SWITCH	; v = 0 - 63:OFF, 64 - 127:ON

If the UTILITY Foot Switch parameter is set to Sustain, this message is transmitted by foot switch operations.
If the SETUP Knob Assign parameter assigns this to a knob 1 - 31, knob operations will transmit c=1 - 119 (except 32).

* Control numbers received

c = 0	BANK SEL MSB	; v = 0:GM VOICE 63:RS7000 VOICE 64:RS7000 SAMPLE VOICE 126:RS7000 DRUM VOICE 127:GM DRUM
c = 32	BANK SEL LSB	; v = 0 - 127 *3
c = 1	MODULATION	; v = 0 - 127
c = 5	PORTAMENTO TIME	; v = 0 - 127 *2
c = 6	DATA ENTRY MSB	; v = 0 - 127 *1
c = 38	DATA ENTRY LSB	; v = 0 - 127 *1
c = 7	TRACK VOLUME	; v = 0 - 127
c = 10	PAN	; v = 0:-64 - 64:0 - 127:+63
c = 11	EXPRESSION	; v = 0 - 127
c = 16	LFO AMOD DEPTH	; v = 0:-64 - 64:0 - 127:+63
c = 17	LFO FMOD DEPTH	; v = 0:-64 - 64:0 - 127:+63
c = 18	AEG SUSTAIN LEVEL	; v = 0:-64 - 64:0 - 127:+63
c = 19	FILTER ENV. DEPTH	; v = 0:-64 - 64:0 - 127:+63
c = 64	SUSTAIN SWITCH	; v = 0-63:OFF, 64-127:ON
c = 65	PORTAMENTO SWITCH	; v = 0-63:OFF, 64-127:ON *2
c = 66	SOSTENUTO	; v = 0-63:OFF, 64-127:ON
c = 71	FILTER RESONANCE	; v = 0:-64 - 64:0 - 127:+63
c = 72	AEG RELEASE TIME	; v = 0:-64 - 64:0 - 127:+63
c = 73	AEG ATTACK TIME	; v = 0:-64 - 64:0 - 127:+63
c = 74	FILTER CUTOFF	; v = 0:-64 - 64:0 - 127:+63
c = 75	AEG DECAY TIME	; v = 0:-64 - 64:0 - 127:+63
c = 76	LFO SPEED	; v = 0:-64 - 64:0 - 127:+63 *4
c = 77	LFO PMOD DEPTH	; v = 0:-64 - 64:0 - 127:+63
c = 80	FEG ATTACK TIME	; v = 0:-64 - 64:0 - 127:+63
c = 81	FEG DECAY TIME	; v = 0:-64 - 64:0 - 127:+63

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c = 82	FEG SUSTAIN LEVEL	; v = 0:-64 - 64:0 - 127:+63
c = 83	FEG RELEASE TIME	; v = 0:-64 - 64:0 - 127:+63
c = 91	REVERB SEND LEVEL	; v = 0 - 127
c = 93	DELAY/CHORUS SEND LEVEL	; v = 0 - 127
c = 94	DRY/VARIATION BALANCE	; v = 0 - 127 *5
c = 96	DATA ENTRY INC	; v = 127 *1
c = 97	DATA ENTRY DEC	; v = 127 *1

*1 Used only when setting a parameter specified by RPN.

*2 Not valid for rhythm sounds.
PORTAMENTO TIME adjusts the rate of pitch change when PORTAMENTO SWITCH=ON; portamento time is shortest at 0, and longest at 127.

*3 This is 0 when MSB = 0, 126, or 127.
0–9 when MSB = 63.
0–1 when MSB = 64.

*4 “16th” – “4thx8” when VOICE EDIT setting BPM Sync = on.

*5 0: Dry Level = 127, Variation Send Level = 0.
64:Dry Level = 127, Variation Send Level = 126.
127: Dry Level = 0, Variation Send Level = 127.

(3-2) CHANNEL MODE MESSAGES

STATUS	1011nnnn(BnH)	n = 0 - 15 VOICE CHANNEL NUMBER
CONTROL NUMBER	0ccccccc	c = CONTROL NUMBER
CONTROL VALUE	0vvvvvvv	v = DATA VALUE

(3-2-1) ALL SOUND OFF (CONTROL NUMBER = 78H, DATA VALUE = 0)
Silence all currently-sounding notes of the corresponding channel. The status of channel messages such as Sustain Switch and Sostenuto will be maintained.

(3-2-2) RESET ALL CONTROLLERS (CONTROL NUMBER = 79H, DATA VALUE = 0)
Reset the values of the following controllers.

PITCH BEND CHANGE	0 (center)
MODULATION	0 (off)
EXPRESSION	127 (maximum)
SUSTAIN SWITCH	0 (off)
PORTAMENTO SWITCH	0 (off)
SOSTENUTO SWITCH	0 (off)
RPN	State in which no number has been set; internal data will not change

Other data will not be reset.

(3-2-3) ALL NOTE OFF (CONTROL NUMBER = 7BH, DATA VALUE = 0)
Turn off all currently-on notes of the corresponding channel. However if sustain or sostenuto are on, the sound will not end until these are turned off.

(3-2-4) OMNI MODE OFF (CONTROL NUMBER = 7CH, DATA VALUE = 0)
Perform the same processing as when All Note Off is received.

(3-2-5) OMNI MODE ON (CONTROL NUMBER = 7DH, DATA VALUE = 0)
Perform the same processing as when All Note Off is received. The RS7000 will not enter Omni On mode.

(3-2-6) MONO (CONTROL NUMBER = 7EH, DATA VALUE = 0)
Perform the same processing as when All Sound Off is received, and if the 3rd byte (mono number) is in the range of 0 ~ 16, set the corresponding channel to Mode 4 (m=1).

(3-2-7) POLY (CONTROL NUMBER = 7FH, DATA VALUE = 0)
Perform the same processing as when All Sound Off is received, and set the corresponding channel to Mode 3.

(3-3) REGISTERED PARAMETER NUMBER

STATUS	1011nnnn(BnH)	n = 0 ~ 15 VOICE CHANNEL NUMBER
LSB	01100100(64H)	
RPN LSB	0ppppppp	p = RPN LSB (see table below)
MSB	01100101(65H)	
RPN MSB	0qqqqqqq	q = RPN MSB (see table below)
DATA ENTRY MSB	00000110(06H)	
DATA VALUE	0mmmmmmm	m = Data Value
DATA ENTRY LSB	00100110(26H)	
DATA VALUE	0lllllll	l = Data Value

First, designate the RPN MSB and RPN LSB to specify the parameter that you wish to control. Then use Data Entry to set the value of the specified parameter.

RPN LSB MSB	D.ENTRY MSB LSB	PARAMETER NAME	DATA RANGE
00H 00H	mmH ---	PITCH BEND SENSITIVITY	00H ~ 18H (0 - 24 semitones)
01H 00H	mmH llH	MASTER FINE TUNE	{mmH, llH} = {00H, 00H} - {40H, 00H} - {7FH, 7FH} (-8192*100/8192) - 0 - (+8192*100/8192)
02H 00H	mmH ---	MASTER COARSE TUNE	28H - 40H - 58H (-24 - 0 - +24 semitones)
7FH 7FH	--- ---	RPN RESET	Reset to a state in which no RPN number has been specified. Internal setting values will not change.

(3-4) SYSTEM REAL TIME MESSAGES

(3-4-1) ACTIVE SENSING

STATUS	11111110(FEH)

Transmitted at intervals of approximately 200 msec.
Not transmitted while reading/writing a card or disk.

Once this message is received, detection of Active Sensing messages will begin. If neither status nor data is received for an interval of approximately 350 msec or more, the MIDI reception buffer will be cleared, and any sounding notes and the sustain switch will be forced off. The value of the various control messages will be reset to specific values (the same values as when Reset All Controller is received).

(3-5) SYSTEM EXCLUSIVE MESSAGE

(3-5-1) UNIVERSAL NON REALTIME MESSAGE

(3-5-1-1) GENERAL MIDI MODE ON

F0H 7EH 7FH 09H 01H F7H

The following controllers will be reset to the corresponding values.

TRACK VOLUME	100
PAN	Center
PROGRAM CHANGE	1
BANK SELECT MSB	0
REVERB SEND LEVEL	40
DELAY/CHORUS SEND LEVEL	0
DRY/VARIATION BALANCE	0
PITCH BEND CHANGE	0 (center)
MODULATION	0 (off)
EXPRESSION	127 (maximum)
SUSTAIN SWITCH	0 (off)
SOSTENUTO SWITCH	0 (off)
RPN	A state in which no number has been set
MIDI MASTER VOLUME	127 (maximum)
PITCH BEND SENSITIVITY	02 (2 semitones)
FINE TUNING	0
COARSE TUNING	0

(3-5-1-2)IDENTITY REQUEST (only transmitted)

F0H 7EH 0nH 06H 01H F7H (n is the Device Number, but the RS7000 receives all numbers.)

(3-5-1-3)IDENTITY REPLY (only transmitted)

F0H 7EH 7FH 06H 02H 43H 00H 41H ddH ddH 00H 00H 00H 01H F7H
dd; Device Number Code RS7000 = 14H, 04H

(3-5-2)UNIVERSAL REALTIME MESSAGE

(3-5-2-1) MIDI MASTER VOLUME

F0H 7FH 7FH 04H 01H llH mmH F7H

Modifies the Master Volume value.
The mm value is used as the MIDI Master Volume value. (The value of ll is ignored.)

(3-5-3)PARAMETER CHANGE

11110000	F0	Exclusive Status
01000011	43	YAMAHA ID
0001nnnn	1n	Device Number
01101010	6A	Model ID
0aaaaaaa	aaaaaaa	Address High
0aaaaaaa	aaaaaaa	Address Mid
0aaaaaaa	aaaaaaa	Address Low
0ddddddd	ddddddd	Data
|	|	|
11110111	F7	End of Exclusive

For parameters whose data size is 2 or 4, data for the corresponding size will be transmitted.
For the Address and Byte Count, refer to the separate table.
The RS7000 receives all device numbers, and transmits these messages with n=0.

The following four types are received.
System Data
Effect Data
Multi Part Data
AD Part Data

● Sequencer block (Sequencer Part)

(1) TRANSMIT FLOW

MIDI OUT (A, B) ◀— [SW1] — [SW3] — CHANNEL VOICE MESSAGE

NOTE ON/OFF	9nH
POLYPHONIC KEY PRESSURE	AnH
CONTROL CHANGE	BnH
PROGRAM CHANGE	CnH
CHANNEL PRESSURE	DnH
PITCH BEND CHANGE	EnH

[SW3] — CHANNEL MODE MESSAGE

ALL SOUND OFF	BnH 78H
RESET ALL CON-TROLLERS	BnH 79H
LOCAL CONTROL	BnH 7AH
OMNI MODE OFF	BnH 7CH
OMNI MODE ON	BnH 7DH
MONO MODE ON	BnH 7EH
POLY MODE ON	BnH 7FH

[SW5] — TIMING CLOCK F8H

[SW2] — SYSTEM REALTIME MESSAGE

START	FAH
CONTINUE	FBH
STOP	FCH

[SW2] — SYSTEM COMMON MESSAGE

SONG POSITION POINTER	F2H
SONG SELECT	F3H

[SW3] — SYSTEM EXCLUSIVE MESSAGE F0H F7H

[SW2] — [SW4] — MIDI MACHINE CONTROL

STOP	F0H 7FH 7FH 06H 01H F7H
DEFERRED PLAY	F0H 7FH 7FH 06H 03H F7H
LOCATE	F0H 7FH 7FH 06H 44H 06H 01H hrH mnH scH frH ffH F7H

[SW1] Out Select and Out Channel
The SETUP parameter Out Channel allows the output connector and MIDI transmit channel to be specified for each track.

[SW2] MIDI Control Out
The UTILITY parameter Control allows transmission to be turned on/off and the output connector to be specified.

[SW3] MIDI Output Filter
The UTILITY parameter MIDI Filter allows transmission to be turned on/off.

[SW4] MIDI Sync
Transmitted when UTILITY MIDI Sync is set to MTC.

[SW5] MIDI Clock Out
The UTILITY parameter MIDI Clock out allows transmission to be turned on/off and the output connector to be specified.

(2) RECEIVE FLOW

MIDI IN —▶ [SW1] — CHANNEL VOICE MESSAGE

NOTE OFF	8nH
NOTE ON/OFF	9nH
POLYPHONIC KEY PRESSURE	AnH
CONTROL CHANGE	BnH
PROGRAM CHANGE	CnH
CHANNEL PRESSURE	DnH
PITCH BEND CHANGE	EnH

CHANNEL MODE MESSAGE

ALL SOUND OFF	BnH 78H
RESET ALL CONTROLLERS	BnH 79H
LOCAL CONTROL	BnH 7AH
OMNI MODE OFF	BnH 7CH
OMNI MODE ON	BnH 7DH
MONO MODE ON	BnH 7EH
POLY MODE ON	BnH 7FH

SYSTEM EXCLUSIVE MESSAGE F0H F7H

[SW3] — TIMING CLOCK F8H

[SW3] — MTC QUARTER FRAME MESSAGE F1H

[SW2] — SYSTEM REALTIME MESSAGE

START	FAH
CONTINUE	FBH
STOP	FCH

SYSTEM COMMON MESSAGE

SONG POSITION POINTER	F2H
SONG SELECT	F3H

SYSTEM EXCLUSIVE MESSAGE
SECTION CONTROL F0H 43H 7EH 00H ssH ddH F7H

[SW1] MIDI Input Filter
The UTILITY parameter MIDI Filter allows reception to be turned on/off.

[SW2] MIDI Control In
The UTILITY parameter MIDI Control allows reception to be turned on/off.

[SW3] MIDI Sync
Timing Clock is received when the UTILITY parameter MIDI Sync = MIDI, and MTC is received when MIDI Sync = MTC.

<Table 1-1> Parameter Base Address

	Top Address			Description
	H	M	L	
SYSTEM	00	00	00	System
EFFECT	01	00	00	Reverb
	01	01	00	Delay/Chorus
	01	02	00	Variation
	01	40	00	Master EQ
	01	41	00	Master Effect
MULTI PART GROUP1	10	00	00	Multi Part 1
				:
	10	0F	00	Multi Part 16
MULTI PART GROUP2	11	00	00	Multi Part 1
				:
	11	0F	00	Multi Part 16
MULTI PART GROUP3	13	00	00	Multi Part 1
				:
	13	0F	00	Multi Part 16
AD PART	14	00	00	AD Part 1
	14	01	00	AD Part 2

<Table 1-2> MIDI Parameter Change Table (SYSTEM)

Address			Size	Data (H)	Parameter	Description	Default Value (H)
H	M	L					
00	00	00	1		NOT USED		
		01	1		NOT USED		
		02	4	00 - 0F	MASTER TUNE	-102.4 - +102.3[cent], 1st bit3-0 → bit15-12	00
				00 - 0F		2nd bit3-0 → bit11-8	04
				00 - 0F		3rd bit3-0 → bit7-4	00
				00 - 0F		4th bit3-0 → bit3-0	00
		06	1		NOT USED		
		07	1	00 - 03	STEREO OUT LEVEL	00:0dB, 01:+6dB, 02:+12dB, 03:+18dB	00
		08	1	00 - 03	AS1&2 OUT LEVEL	00:0dB, 01:+6dB, 02:+12dB, 03:+18dB	00
		09	1		NOT USED		

<Table 1-3> MIDI Parameter Change Table (EFFECT)

REVERB

Address			Size	Data (H)	Parameter	Description	Default Value (H)
H	M	L					
00	00	00	2	00 - 7F	REVERB TYPE MSB		01 10 (ROOM1)
				00 - 7F	REVERB TYPE LSB		
		02	2	00 - 7F	REVERB PARAMETER 1 MSB	1st bit6-0 → bit13-7	00 12
				00 - 7F	REVERB PARAMETER 1 LSB	2nd bit6-0 → bit6-0	
		04	2	00 - 7F	REVERB PARAM ETER 2 MSB	″	00 0A
				00 - 7F	REVERB PARAMETER 2 LSB		
		06	2	00 - 7F	REVERB PARAMETER 3 MSB	″	00 08
				00 - 7F	REVERB PARAMETER 3 LSB		
		08	2	00 - 7F	REVERB PARAMETER 4 MSB	″	00 0D
				00 - 7F	REVERB PARAMETER 4 LSB		
		0A	2	00 - 7F	REVERB PARAMETER 5 MSB	″	00 31
				00 - 7F	REVERB PARAMETER 5 LSB		
		0C	2	00 - 7F	REVERB PARAMETER 6 MSB	″	00 00
				00 - 7F	REVERB PARAMETER 6 LSB		
		0E	2	00 - 7F	REVERB PARAMETER 7 MSB	″	00 04
				00 - 7F	REVERB PARAMETER 7 LSB		
		10	2	00 - 7F	REVERB PARAMETER 8 MSB	″	00 32
				00 - 7F	REVERB PARAMETER 8 LSB		
		12	2	00 - 7F	REVERB PARAMETER 9 MSB	″	00 08
				00 - 7F	REVERB PARAMETER 9 LSB		
		14	2	00 - 7F	REVERB PARAMETER 10 MSB	″	00 40
				00 - 7F	REVERB PARAMETER 10 LSB		
		16	1	00 - 7F	REVERB RETURN LEVEL	-∞dB...0dB...+6dB(0...64...127)	40
		17	1	01 - 7F	REVERB PAN	L63...C...R63(1...64...127)	40

DELAY/CHORUS

Address			Size	Data (H)	Parameter	Description	Default Value (H)
H	M	L					
01	01	00	2	00 - 7F	DELAY/CHORUS TYPE MSB		02 50 (TMP-DLY1)
				00 - 7F	DELAY/CHORUS TYPE LSB		
		02	2	00 - 7F	DELAY/CHORUS PARAMETER 1 MSB	1st bit6-0 → bit13-7	depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 1 LSB	2nd bit6-0 → bit6-0	
		04	2	00 - 7F	DELAY/CHORUS PARAMETER 2 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 2 LSB		
		06	2	00 - 7F	DELAY/CHORUS PARAMETER 3 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 3 LSB		
		08	2	00 - 7F	DELAY/CHORUS PARAMETER 4 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 4 LSB		
		0A	2	00 - 7F	DELAY/CHORUS PARAMETER 5 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 5 LSB		
		0C	2	00 - 7F	DELAY/CHORUS PARAMETER 6 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 6 LSB		
		0E	2	00 - 7F	DELAY/CHORUS PARAMETER 7 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 7 LSB		
		10	2	00 - 7F	DELAY/CHORUS PARAMETER 8 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 8 LSB		
		12	2	00 - 7F	DELAY/CHORUS PARAMETER 9 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 9 LSB		
		14	2	00 - 7F	DELAY/CHORUS PARAMETER 10 MSB		depends on type
				00 - 7F	DELAY/CHORUS PARAMETER 10 LSB		
		16	1	00 - 7F	DELAY/CHORUS RETURN LEVEL	-∞dB...0dB...+6dB(0...64...127)	40
		17	1	01 - 7F	DELAY/CHORUS PAN	L63...C...R63(1...64...127)	40
		18	1	00 - 7F	SEND DELAY/CHORUS TO REVERB	-∞dB...0dB...+6dB(0...64...127)	00

VARIATION

Address H	Address M	Address L	Size	Data (H)	Parameter	Description	Default Value (H)
01	02	00	2	00 - 7F	VARIATION TYPE MSB		09 30 (AMP SIM)
				00 - 7F	VARIATION TYPE LSB		
		02	2	00 - 7F	VARIATION PARAMETER 1 MSB	1st bit6-0 → bit13-7	depends on type
				00 - 7F	VARIATION PARAMETER 1 LSB	2nd bit6-0 → bit6-0	
		04	2	00 - 7F	VARIATION PARAMETER 2 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 2 LSB		
		06	2	00 - 7F	VARIATION PARAMETER 3 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 3 LSB		
		08	2	00 - 7F	VARIATION PARAMETER 4 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 4 LSB		
		0A	2	00 - 7F	VARIATION PARAMETER 5 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 5 LSB		
		0C	2	00 - 7F	VARIATION PARAMETER 6 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 6 LSB		
		0E	2	00 - 7F	VARIATION PARAMETER 7 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 7 LSB		
		10	2	00 - 7F	VARIATION PARAMETER 8 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 8 LSB		
		12	2	00 - 7F	VARIATION PARAMETER 9 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 9 LSB		
		14	2	00 - 7F	VARIATION PARAMETER 10 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 10 LSB		
		16	2	00 - 7F	VARIATION PARAMETER 11 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 11 LSB		
		18	2	00 - 7F	VARIATION PARAMETER 12 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 12 LSB		
		1A	2	00 - 7F	VARIATION PARAMETER 13 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 13 LSB		
		1C	2	00 - 7F	VARIATION PARAMETER 14 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 14 LSB		
		1E	2	00 - 7F	VARIATION PARAMETER 15 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 15 LSB		
		20	2	00 - 7F	VARIATION PARAMETER 16 MSB	″	depends on type
				00 - 7F	VARIATION PARAMETER 16 LSB		
		22	1	00 - 7F	VARIATION RETURN LEVEL	-∞dB...0dB...+6dB (0...64...127)	40
		23	1	01 - 7F	VARIATION PAN	L63...C...R63 (1...64...127)	40
		24	1	00 - 7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00
		25	1	00 - 7F	SEND VARIATION TO DELAY/ CHORUS	-∞dB...0dB...+6dB (0...64...127)	00

MASTER EQ

Address H	Address M	Address L	Size	Data (H)	Parameter	Description	Default Value (H)
01	40	00	1	28 - 58	EQ LOW GAIN	-24 - +24[dB]	40
		01	1	0A - 28	EQ LOW FREQUENCY	63 - 2000[Hz]	0E
		02	1	01 - 78	EQ LOW Q	0.1 - 12.0	0A
		03	1		NOT USED		
		04	1		NOT USED		
		05	1		NOT USED		
		06	1		NOT USED		
		07	1		NOT USED		
		08	1	34 - 4C	EQ MID1 GAIN	-12 - +12[dB]	40
		09	1	0E - 36	EQ MID1 FREQUENCY	100 - 10.0[kHz]	1A
		0A	1	01 - 78	EQ MID1 Q	0.1 - 12.0	0A
		0B	1		NOT USED		
		0C	1	34 - 4C	EQ MID2 GAIN	-12 - +12[dB]	40
		0D	1	0E - 36	EQ MID2 FREQUENCY	100 - 10.0[kHz]	2D
		0E	1	01 - 78	EQ MID2 Q	0.1 - 12.0	0A
		0F	1		NOT USED		
		10	1	34 - 4C	EQ HIGH GAIN	-12 - +12[dB]	40
		11	1	1C - 3A	EQ HIGH FREQUENCY	0.5 - 16.0[kHz]	34
		12	1	01 - 78	EQ HIGH Q	0.1 - 12.0	0A
		13	1		NOT USED		

MASTER EFFECT

Address H	Address M	Address L	Size	Data (H)	Parameter	Description	Default
01	41	00	2		NOT USED		
					NOT USED		
		02	2	00 - 7F	MASTER EFF TYPE 1 MSB	1st bit6-0 → bit13-7	depends on type
				00 - 7F	MASTER EFF TYPE 1 LSB	2nd bit6-0 → bit6-0	
		04	2	00 - 7F	MASTER EFF TYPE 2 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 2 LSB		
		06	2	00 - 7F	MASTER EFF TYPE 3 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 3 LSB		
		08	2	00 - 7F	MASTER EFF TYPE 4 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 4 LSB		
		0A	2	00 - 7F	MASTER EFF TYPE 5 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 5 LSB		
		0C	2	00 - 7F	MASTER EFF TYPE 6 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 6 LSB		
		0E	2	00 - 7F	MASTER EFF TYPE 7 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 7 LSB		
		10	2	00 - 7F	MASTER EFF TYPE 8 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 8 LSB		
		12	2	00 - 7F	MASTER EFF TYPE 9 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 9 LSB		
		14	2	00 - 7F	MASTER EFF TYPE 10 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 10 LSB		
		16	2	00 - 7F	MASTER EFF TYPE 11 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 11 LSB		
		18	2	00 - 7F	MASTER EFF TYPE 12 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 12 LSB		
		1A	2	00 - 7F	MASTER EFF TYPE 13 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 13 LSB		
		1C	2	00 - 7F	MASTER EFF TYPE 14 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 14 LSB		
		1E	2	00 - 7F	MASTER EFF TYPE 15 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 15 LSB		
		20	2	00 - 7F	MASTER EFF TYPE 16 MSB	″	depends on type
				00 - 7F	MASTER EFF TYPE 16 LSB		

<Table 1-4> MIDI Parameter Change Table (MULTI-PART)MULTI PART GROUP1

Address H	Address M	Address L	Size	Data (H)	Parameter	Description	Default Value (H)
10	pp	00	1	00 - 7F	BANK SELECT MSB	0 - 127	00
		01	1	00 - 7F	BANK SELECT LSB	0 - 127	00
		02	1	00 - 7F	PROGRAM NUMBER	1 - 128	00
		03	1		NOT USED		
		04	1	00 - 01	MONO/POLY MODE	MONO, POLY	01
		05	1		NOT USED		
		06	1		NOT USED		
		07	1		NOT USED		
		08	1		NOT USED		
		09	1	28 - 58	PITCH BEND RANGE	-24 - +24	40
		0A	1		NOT USED		
		0B			NOT USED		
		0C	1		NOT USED		
		0D	1	00 - 7F	VOLUME	0 - 127	64
		0E	1	01 - 7F	PAN	L63 - C - R63	40
		0F	1	28 - 58	COARSE TUNE	-24 - +24[semitones]	40
		10	2	00 - 0F	DETUNE MSB	-12.8 - +12.7[Hz], 1st bit3-0 → bit7-4	08
				00 - 0F	DETUNE LSB	2nd bit3-0 → bit3-0	00
		12	1	00 - 7F	REVERB SEND	0 - 127	28
		13	1	00 - 7F	DELAY/CHORUS SEND	0 - 127	00
		14	1	00 - 7F	VARIATION SEND	0 - 127	00
		15	1	00 - 7F	DRY LEVEL	0 - 127	7F
		16	1		NOT USED		
		17	1	00 - 7F	FILTER CUTOFF FRE-QUENCY	-64 - +63	40
		18	1	00 - 7F	FILTER RESONANCE	-64 - +63	40
		19	1		NOT USED		
		1A	1		NOT USED		
		1B	1	00 - 7F	PORTAMENTO TIME	0 - 127	40
		1C	1	00 - 02	PORTAMENTO MODE	OFF, FINGERED, FULL-TIME	00
		1D	1		NOT USED		
		1E	1	00 - 09	OUTPUT SELECT	0: L&R, 1 - 6: AS1 - AS6, 7: AS1&2, 8:3&4, 9:5&6	00
		1F	1	00 - 01	VOICE PARAMETER HOLD	OFF, ON	00
10	pp	20	1		NOT USED		
		21	1	00 - 7F	AEG ATTACK TIME	-64 - +63	40
		22	1	00 - 7F	AEG DECAY TIME	-64 - +63	40
		23	1		NOT USED		
		24	1	00 - 7F	AEG RELEASE TIME	-64 - +63	40
		25	1		NOT USED		
		26	1		NOT USED		
		27	1		NOT USED		
		28	1	00 - 7F	AEG SUSTAIN LEVEL	-64 - +63	40
		29	1		NOT USED		
		2A	1		NOT USED		
		2B	1	00 - 7F	PEG ATTACK TIME	-64 - +63	40
		2C	1	00 - 7F	PEG DECAY TIME	-64 - +63	40
		2D	1		NOT USED		
		2E	1	00 - 7F	PEG RELEASE TIME	-64 - +63	40
		2F	1	00 - 7F	PEG INITIAL LEVEL	-64 - +63	40
		30	1		NOT USED		
		31	1		NOT USED		
		32	1	00 - 7F	PEG SUSTAIN LEVEL	-64 - +63	40
		33	1	00 - 7F	PEG RELEASE LEVEL	-64 - +63	40
		34	1		NOT USED		
		35	1	00 - 7F	FEG ATTACK TIME	-64 - +63	40
		36	1	00 - 7F	FEG DECAY TIME	-64 - +63	40
		37	1		NOT USED		
		38	1	00 - 7F	FEG RELEASE TIME	-64 - +63	40
		39	1		NOT USED		
		3A	1		NOT USED		
		3B	1		NOT USED		
		3C	1	00 - 7F	FEG SUSTAIN LEVEL	-64 - +63	40
		3D	1		NOT USED		
10	pp	40	1	00 - 7F	LFO SPEED (BPM Sync=off only)	-64 - +63	40
		41	1		NOT USED		
		42	1		NOT USED		
		43	1		NOT USED		
		44	1		NOT USED		
		45	1	00 - 02	LFO KEY ON RESET	OFF, EACH KEYON, FIRST KEYON	00
		46	1		NOT USED		
		47	1		NOT USED		
		48	1		NOT USED		
		49	1		NOT USED		

MULTI PART GROUP2

Address H	Address M	Address L	Size	Data (H)	Parameter	Description	Default Value (H)
11	pp	30	1	00 - 7F	LFO AMP MOD DEPTH	-64 - +63	40
		31	1	00 - 7F	LFO FILTER MOD DEPTH	-64 - +63	40
		32	1	00 - 7F	LFO PITCH MOD DEPTH	-64 - +63	40
		33	1	00 - 7F	RANDOM PAN DEPTH	-64 - +63	40
		34	1		NOT USED		
		35	1		NOT USED		
		36	1		NOT USED		
		37	1	00 - 7F	FEG DEPTH	-64 - +63	40

MULTI PART GROUP3

Address H	Address M	Address L	Size	Data (H)	Parameter	Description	Default Value (H)
13	pp	00	1	00 - 06	LFO WAVE	0:TRI, 1:SAW UP, 2:SAW DOWN, 3:SQU, 4:S/H, 5:PROGRAM, 6:USER	00
		01	1	00 - 05	LFO PHASE	0, 90, 120, 180, 240, 270	00
		02	1	00 - 15	LFO SPEED (BPM Sync=on only)	4th × 8 - 16 th	0B
		03	1	00 - 06	LFO BPM SYNC	OFF,ON	06
		04	1	00 - 03	LFO USER WAVE TOTAL STEP	2, 3, 4, 6, 8, 12, 16	00
		05	1	00 - 7F	LFO USER WAVE SLOPE	OFF, UP, DOWN, UP&DOWN	40
		06	1	00 - 7F	LFO USER WAVE STEP VALUE1	0 - 127	40
		07	1	00 - 7F	LFO USER WAVE STEP VALUE2	0 - 127	40
		08	1	00 - 7F	LFO USER WAVE STEP VALUE3	0 - 127	40
		0A	1	00 - 7F	LFO USER WAVE STEP VALUE4	0 - 127	40
		0B	1	00 - 7F	LFO USER WAVE STEP VALUE5	0 - 127	40
		0C	1	00 - 7F	LFO USER WAVE STEP VALUE6	0 - 127	40
		0D	1	00 - 7F	LFO USER WAVE STEP VALUE7	0 - 127	40
		0E	1	00 - 7F	LFO USER WAVE STEP VALUE8	0 - 127	40
		0F	1	00 - 7F	LFO USER WAVE STEP VALUE10	0 - 127	40
		10	1	00 - 7F	LFO USER WAVE STEP VALUE11	0 - 127	40
		11	1	00 - 7F	LFO USER WAVE STEP VALUE12	0 - 127	40
		12	1	00 - 7F	LFO USER WAVE STEP VALUE13	0 - 127	40
		13	1	00 - 7F	LFO USER WAVE STEP VALUE14	0 - 127	40
		14	1	00 - 7F	LFO USER WAVE STEP VALUE15	0 - 127	40
		15	1	00 - 7F	LFO USER WAVE STEP VALUE16	0 - 127	40
13	pp	40	1		NOT USED		
		41	1	00 - 06	FILTER TYPE	0:Bypass, 1:LPF24, 2:LPF18, 3:LPF12, 4:HPF, 5:BPF, 6:BEF	00
		42	1		NOT USED		
		43	1	00 - 05	EQ TYPE	Low&High, P.EQ, BOOST6, BOOST12, BOOST18, THRU	00
		44	1	00 - 0F	EQ Q	0 - 31	04
		45	2	00 - 01	EQ (LOW) FREQUENCY MSB	Low&High:46 - 182, P.EQ:83 - 251	00
		46		00 - 0F	EQ (LOW) FREQUENCY LSB		36
		47	1	20 - 60	EQ (LOW) GAIN	-32 - +32	40
		48	2	00 - 01	EQ HIGH FREQUENCY MSB	Low&High:131 - 241	01
		49		00- 7F	EQ HIGH FREQUENCY LSB		67
		4A	1	20 - 60	EQ HIGH GAIN	-32 - +32	40

<Table 1-5> MIDI Parameter Change Table (AD PART)

Address H	Address M	Address L	Size	Data (H)	Parameter	Description	Default Value (H)
14	0n	00	1		NOT USED		
		01	1		NOT USED		
		02	1		NOT USED		
		03	1		NOT USED		
		04	1		NOT USED		
		05	1		NOT USED		
		06	1		NOT USED		
		07	1		NOT USED		
		08	1		NOT USED		
		09	1		NOT USED		
		0A	1		NOT USED		
		0B	1		NOT USED		
		0C	1		NOT USED		
		0D	1	00 - 7F	VOLUME	0 - 127	5A
		0E	1	00 - 7F	PAN	L63 - C - R63	40
		0F	1		NOT USED		
		10	2		NOT USED		
		12	1	00 - 7F	REVERB SEND	0 - 127	00
		13	1	00 - 7F	DELAY/CHORUS SEND	0 - 127	00
		14	1	00 - 7F	DRY/VARIATION BALANCE	0 - 127	00
		15	1		NOT USED		
		16	1		NOT USED		
		17	1		NOT USED		
		18	1		NOT USED		
		19	1		NOT USED		
		1A	1		NOT USED		
		1B	1		NOT USED		
		1C	1		NOT USED		
		1D	1		NOT USED		
		1E	1		NOT USED		
		70	1	00 - 01	INPUT GAIN	MIC, LINE	01
		71	1	00 - 01	MONO/STEREO (n=0 only)	MONO × 2, STEREO	01

Appendix

YAMAHA [Music Priduction Studio --- sequencer part] Date:22-MAR-2001
Model RS7000 MIDI Implementation Chart Version : 1.0

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1-16 x	1-16 x	
Mode	Default Messages Altered	x x **************	x x x	
Note Number	: True voice	0-127 **************	0-127	
Velocity	Note ON Note OFF	o 9nH,v=1-127 x 9nH,v=0	o v=1-127 x	
After Touch	Key's Ch's	o o	o o	
Pitch Bend		o	o	
Control Change	0-121	o	o	
Prog Change	: True #	o 0-127 **************	o 0-127	
System Exclusive		o	o	
Common	: Song Pos. : Song Sel. : Tune	o *1 o *1 x	o *1 o *1 x	
System Real Time	: Clock : Commands	o *2 o *1	o *3 o *1	
Aux Messages	:All Sound OFF :Reset All Cntrls :Local ON/OFF :All Notes OFF :Active Sense :Reset	o o o x x x	o o o x x x	

Notes: *1 if MIDI control in/out is enabled. send MMC (stop, differed play, locate) if sync mode is MTC.
*2 if MIDI clock out is enabled. receive MTC quarter frame message if sync mode is MTC.
*3 if MIDI sync is external.

Mode 1 : OMNI ON , POLY Mode 2 : OMNI ON ,MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF,MONO x : No

YAMAHA [Music Production Studio --- voice part] Date:04-APR-2001
Model RS7000 MIDI Implementation Chart Version : 1.0

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	1-16	1-16	
	Changed	x	x	
Mode	Default	3	1	Memorized
	Messages	x	1-4 (m=1) *1	
	Altered	**************	x	
Note Number		0-127	0-127	Transpose
	: True voice	**************	0-127	
Velocity	Note ON	o 9nH,v=1-127	o v=1-127	
	Note OFF	x 9nH,v=0	x	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bend		o	o 0-24 semi	
Control Change	0	o	o	Bank Select MSB
	1,5-7,10-11	-	o	
	16-19	-	o	
	32	o	o	Bank Select LSB
	38	-	o	
	64	o	o	Sustain Switch
	65,66	-	o	
	71-77	-	o	
	80-83	-	o	
	91,93,94,96,97	-	o	
	1-31	o	-	Assignable Knob
	33-119	o	-	Assignable Knob
Prog Change		o 0 - 127	o 0 - 127	
	: True #	**************	0 - 127	
System Exclusive		o	o	
Common	: Song Pos.	x	x	
	: Song Sel.	x	x	
	: Tune	x	x	
System Real Time	: Clock	x	x	
	: Commands	x	x	
Aux Messages	:All Sound OFF	x	o	
	:Reset All Cntrls	x	o	
	:Local ON/OFF	x	x	
	:All Notes OFF	x	o (123-125)	
	:Active Sense	o	o	
	:Reset	x	x	

Notes: *1 m is always treated as "1" regardless of its value.

Mode 1 : OMNI ON , POLY Mode 2 : OMNI ON ,MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF,MONO x : No

12. Glossary

A

Aftertouch

MIDI messages which are transmitted when additional pressure is applied to the keyboard after notes are played.

Amplitude Envelope

A curve that defines the amplitude variation of a note from the time it is initially played (attack) until it fades away completely (release).

Arpeggio

Sometimes known as “broken chords”, the notes of a chord are played one-after-another rather than all at once. The RS7000 auto arpeggio feature automatically creates a variety of arpeggios based on notes you play on the keyboard.

AWM2 Tone Generation

A method of generating sound developed by YAMAHA which is based on digitally recorded waveforms. Since it generates the complex waveform of actual acoustic instruments, it provides extremely realistic sounds. Digital filtering is also built-in, allowing precise control over the tone. AWM2 is an acronym for Advanced Wave Memory 2.

B

Bank Number

In the RS7000 use of the bank select MSB and LSB is facilitated by categorizing voices according to bank number.

Bank Select

MIDI data used to select extended voices. Control number 0 (MSB) and 32 (LSB) as used together to select voice banks. Actual voice selection is achieved by transmitting the bank select value in combination with the appropriate program change number.

Beat

When playing back or recording a song, one “beat” (a rhythmic subdivision of a measure).

BPM (Beats Per Minute)

Another term for “tempo”, determining the speed of playback.

BPM Track

A sequencer track dedicated to the recording and playback of BPM changes.

Breakbeats

Originally this term referred to a section of a song in which all other instruments stop playing while only the drums maintain the rhythm. In dance music such drum phrases are often sampled and looped to provide the rhythmic foundation for a new piece of music. Generally, a drum pattern of a few measures in length is referred to as a breakbeat.

Brilliance

A control or parameter that regulates the brightness of the tone. The cutoff frequency of the RS7000 filters can be controlled to adjust the brilliance.

Buffer

A memory area used for temporary data storage.

Bulk Data

A type of System Exclusive message which consists of data for the internal settings of a device.

Bus line

A route (line) that carries audio signals between stages of a sound system. The bus lines of the RS7000 include “SEND VAR. TO DELAY”, SEND VAR. TO REVERB”, SEND DELAY TO REVERB”, and the stereo bus line that collects the stereo output of each stage.

Byte

A group of 8 digital bits is generally referred to as a “byte”. A single byte can be represented by a 2-digit hexadecimal number. This type of notation is used to represent MIDI data, memory capacity, and other digital values.

C

Cent

In musical terms a "cent" is 1/100th of a semitone.

Channel

See "MIDI Channel", page 337.

Channel Aftertouch

Aftertouch refers to the capability to control some aspect of the sound by varying pressure on the keyboard after notes are played. Two types of aftertouch data are used: polyphonic and channel. Channel aftertouch is aftertouch data in which only one aftertouch value is transmitted for each MIDI channel. In contrast, polyphonic aftertouch produces separate aftertouch values for each note played.

Checksum

A value used to verify the integrity of multiple blocks of received MIDI data (system exclusive data). The checksum is transmitted at the end of the data.

Clock

A unit of note resolution. On the RS7000 one clock equals 1/480th of a quarter note.

Common Sample Voice

Sample voices which are available for use by all songs and styles. Regardless of the number of songs and styles, a maximum of 128 common sample voices can be stored in the RS7000 internal memory. The content and program number/voice relationship of common sample voices does not change when songs or styles are switched.

Control Change

A type of MIDI messages that is transmitted when a controller (modulation wheel, foot controller etc.) is operated. Each controller has its own control number.

Cutoff Frequency

Filters work by allowing portions of the signal lower or higher than a given frequency to pass, and cutting the remainder of the signal. This frequency is referred to as the cutoff frequency.

D

Data Entry

A type of MIDI control change data (control change number 6) generally used to set RPN-specified parameters.

Delay

An effect (or device) that delays an audio signal. The RS7000's variation effects include delay effects.

Depth

The amount or degree to which an effect changes the original sound.

Device Number

A special MIDI channel used for system exclusive messages. Device numbers 1 through 16 are available, and system exclusive data communication becomes possible when both the transmitting and receiving devices are set to the same number.

Digital Filter

A filter that works in the digital rather than analog domain. The RS7000 provides digital filters for each voice element, allowing a wide range of tonal control.

DIGITAL IN/OUT Connector

Coaxial connectors for input and output of digital audio signals.

Drum Voice

A special type of voice used only for drum or percussion instruments. Each key on the keyboard plays a different drum or percussion instrument.

Dry Sound

The audio signal that is not processed by an effect. Normally when using an effect, not all of the audio signal is passed through the effect. Rather, the degree of the effect is adjusted by mixing the sound that passes through the effect (the wet sound) with the sound that bypasses the effect (the dry sound).

DSP

Stands for Digital Signal Processor. Digital signal processors digitally process signals to produce a wide range of effects. The RS7000 includes high-quality DSP capability for the reverb, chorus, and other effects.

Dump out
The process of transmitting bulk data as MIDI System Exclusive messages.

E

Echo back
The action or process in which data received at the MIDI IN connector is re-transmitted from the MIDI OUT connector.

Edit
The action of modifying or editing data.

Effect
A circuit (device) that processes the sound to add various effects.
The RS7000 provides 3 system effect stages (reverb, delay/chorus and variation), as well as a range of master effects.

Element
A block within the AWM2 tone generator that generates a single sound. The voices of the RS7000 consist of 1 to 2 elements.

End Point
The point at which playback of a sample is set to stop.

Ensemble
An ensemble consists of two or more instruments playing together. The RS7000 is capable of playing ensembles consisting of up to 32 parts.

Envelope Generator (EG)
A circuit that modifies the level of the tone generator from the moment that a note is played until the sound decays to silence. The AEG controls the volume, the PEG controls the pitch, and the FEG controls the filter.

Equalizer
A circuit or device that divides the frequency spectrum into multiple bands which can be boosted or cut as required to tailor the overall frequency response.

Event
A single piece of the data (such as Note On/Off or Program Change messages) which makes up a sequence.

Exclusive
See the entry for System Exclusive.

Expression
A MIDI control change message used to control the volume of an individual track or part.

F

Filter
A circuit that modifies tone by blocking or passing a specific frequency range of the sound. The RS7000 has filters for each voice element.

Formatting
The action of initializing a memory card or SCSI disk so that it can be used by the RS7000.

G

Gate time
The length of time that a note actually sounds.

Groove
Refers to rhythmic “feel”. The RS7000 features a Groove function which can be used to subtly (or dramatically) alter the groove of a pattern or song.

H

Hertz
The standard unit of frequency defined as “cycles per second”. The pitch of the A3 note on a piano is about 440 Hertz.

Hexadecimal
A system of numbering based on 16, in which the digits increment in units of n-th powers of 16. The alphabetical characters A ~ F are used to express the numbers 10 ~ 15.

I

Initialize
The act of restoring a parameter to its most basic "initial" value.

Interval Time
A delay inserted at regular intervals when transmitting bulk data that was recorded in a sequence track.

L

LFO
An acronym for Low Frequency Oscillator, a circuit that produces a signal at a low frequency. The signal from the LFO can be used to modulate pitch, volume or tone to produce effects such as vibrato, tremolo and wah.

Local Sample Voice
A sample which available for use by only a specific song or style. Up to 128 local sample voices can be stored for each song or style. Samples which are available for use by all songs or styles are known as "common sample voices".

Loop
Repeat playback of all or a specified section of a sample.

Low Pass Filter
A type of filter which cuts the high frequencies. The sound can be brightened by raising the cutoff frequency of the filter, or darkened by lowering it.

LSB
An acronym for Least Significant Byte, referring to the lower byte of data when MIDI control change data is divided into two bytes (the MSB and LSB) for transmission.

M

MIDI
An acronym for Musical Instruments Digital Interface, a standard for transferring data between musical instruments. Most electronic musical instruments today implement the MIDI specification and provide MIDI connectors. Such instruments can be connected together to create remote performance or automatic performance systems.

MIDI Channel
16 MIDI channels are provided — 1 ~ 16 — and the transmitting and receiving devices must be set to the same channel to allow communication of performance data.

MIDI Data Filer
A MIDI device that receives data for the internal settings of a MIDI device in the form of System Exclusive messages, and stores them to floppy disk. An example is the YAMAHA MDF3 MIDI data filer.

MIDI Time Code (MTC)
A time-based synchronization signal which allows synchronization of MIDI equipment, multitrack recorders, and other linear recording/playback devices. MTC is based on the industry-standard SMPTE time code.

MIDI Wind Controller
A sophisticated breath controller that play like a saxophone or similar wind instrument while producing MIDI performance data that can be used to control MIDI tone generators, sequencers, etc. An example of a high-performance MIDI Wind Controller is the YAMAHA WX5.

MSB
An acronym for Most Significant Byte, referring to the upper byte of data when MIDI control change data is divided into two bytes (the MSB and LSB) for transmission.

Multi-timbral Tone Generator
A tone generator that can simultaneously produce more than one type of sound.

Mute
A function that temporarily silences a specified track.

N

Normalize
The process of maximizing the overall level of a sample by increasing the amplitude of the waveform so that the highest peak level is just below clipping.

Normal Voice
A voice which play normally via the keyboard with the standard pitches for each key.

Note On/Off
MIDI messages which represent notes played on a keyboard or other instrument. Pressing a key produces a Note On message, and a Note Off message is produced when the key is released.

NRPN
An acronym for Non Registered Parameter Number. These are a type of MIDI control change message, and are used to edit sounds via MIDI, allowing you to edit filter or EG settings, or adjust the pitch or level for each instrument of a drum voice.

O

Offset Edit
A type of editing in which the value of a parameter is not changed directly, rather a specified “offset” value is added to or subtracted from the current parameter value.

OPTICAL IN/OUT Connector
Optical connectors for input and output of digital audio signals.

Optimize
The process of “de-fragmenting” the sample memory so that the largest possible contiguous segment of memory is available for sampling.

Overdub
A method of real-time recording in which new material is recorded without erasing previously recorded data.

P

Pan
The parameter that sets the stereo location of a sound when it is played back in stereo. The pan parameters found in the MIXER, VOICE EDIT, and other modes.

Parameter
A setting or data item which you can edit in the various mode and sub mode displays.

Parameter Change
A MIDI system exclusive message which can be used to adjust internal parameter settings. Refer to the MIDI Data Format section for details.

Part
A single voice played via one of the 16 available MIDI channels is known as a “part”. The RS7000 has 16 parts.

Partition
A software division on a disk storage medium (hard disk or MO, for example) used to store data.

Pattern
This term covers a wide range of performance data that can be recorded and played in the PATTERN mode. Patterns can be repeated and switched to create the desired musical flow. Patterns consist of from 1 to 16 phrases assigned to the pattern mode sequence tracks.

Pattern Chain
A number of patterns played in sequence (“chained”) to create a complete song. The PATTERN CHAIN mode automates the process of switching styles and sections.

Phrase
An individual instrumental “part” which can be used in a pattern: a drum pattern, bass line, or chord part.

Phrase Sampling
The act of sampling an entire musical or rhythmic phrase, as opposed to recording a one-shot sample such as a single snare hit.

Pitch EG
An envelope generator that can be used to control the pitch of a voice from the note attack until the final release.

Pitched Voice
A voice which plays at the standard pitches of each key on the keyboard. Pitched voices allow samples to be played at various pitches or various pitches to be played simultaneously to create chords, just like conventional instruments.

Polyphonic Aftertouch
Aftertouch refers to the capability to control some aspect of the sound by varying pressure on the keyboard after notes are played. Two types of aftertouch data are used: polyphonic and channel. Channel aftertouch is aftertouch data in which only one aftertouch value is transmitted for each MIDI channel. In contrast, polyphonic aftertouch produces separate aftertouch values for each note played.

Polyphony
The number of notes that can be played simultaneously by a tone generator or instrument. The maximum polyphony of the RS7000 is 62 notes.

Portamento
An effect that smoothly changes the pitch from one note to another note. Higher Portamento Time values will produce a slower change, and there will be no effect with a setting of 0.

Portamento Switch
MIDI control change number 65 turns the portamento effect on or off.

Preset
An item provided in the internal memory. In the RS7000 a substantial number of phrases are provided as presets.

Punch-in Record
A method of realtime recording in which the user specifies the punch-in and punch-out points, so that recording takes place only in that area.

Q

Q (Bandwidth)
An equalizer parameter used in band-pass or band-elimination type filters. The “Q” is the bandwidth, or the range of frequencies affected by the filter. The higher the Q, the broader the affected band.

Quantize
A function which can be used to “tighten up” the inexact timing of notes or other events that were entered in real-time.

R

RAM
Random Access Memory than can be written to, read from, and erased as required. The RS7000 uses internal RAM memory.

Real-time Recording
A method of recording in which a performance is recorded as it is played in real time, similar to a conventional multi-track recorder.

Redo
A function which “redoes” (restores) the results of a function which has been undone by using the “Undo” function.

Replace
A method of real-time recording or punch recording in which previously recorded data is erased (replaced) as new material is recorded.

Resonance

A parameter that boosts the level of the signal in the area of the cutoff frequency. By emphasizing the overtones in this area, this can produce a distinctive “peaky” tone, making the sound brighter and harder.

Reverb

An effect that simulates the acoustical reverberation of a room or space. The sound that reaches our ear usually includes not only the direct sound, but also sound that was reflected off the walls or ceiling. Reverb creates these indirect reflections artificially. Although some reflections can be perceived individually as distinct echoes, the term “reverb” usually refers only to the indistinct “wash” of reflected sound.

Reverse

Applies to the trick of playing a sample or a portion of a sample in reverse.

ROM

Read Only Memory. This type of memory can be read from but not written to or erased. All preset memory is ROM memory.

RPN

An acronym for Registered Parameter Number. These MIDI messages are used to adjust individual part settings such as Pitch Bend Sensitivity or Tuning.

S

Sample

A recorded sound or phrase produced by a sampling operation.

Sample Data

Data including the sampled waveform and the data that specifies the start point, end point, and other playback parameters.

Sample Kit Voice

A sample kit voices is a single voice in which different samples are assigned to each key from C-2 through G8. Sample kit voices allow different samples to be played individually or simultaneously via different keys on the keyboard.

Sample Voice

A voice based on a sample created by using the sampling function.

Sampling Frequency

Specifies the number of “samples” taken of an analog signal each second. The individual samples are converted to digital values which represent the amplitude of the signal and the sample point. The higher the sampling frequency the higher the resultant sound quality.

Sampling Level

The signal level (the “record” level) set when sampling.

Save

The process of saving data or songs from internal memory to floppy disk.

Scene Memory

The RS7000 has 5 scene memories which can store complete “snapshots” of all current settings for instant recall when needed.

SCSI

Stands for “Small Computer Serial Interface”. The SCSI interface is used to connect hard disks and other storage media to the RS7000.

Section

A term referring to each of the 16 types of patterns that comprise a style. Patterns are selected by specifying the style and the section.

Send Level

The amount of signal that is sent to a specified bus line for processing by an effect. The amount of signal that is returned from the effect is the “return level”.

Sensitivity

The degree to which an aspect of the sound (e.g., volume) responds to control (e.g., note velocity).

Sequencer

A system (or device) that records, edits, modifies, and plays back a musical performance in the form of MIDI messages.

Sequence Tracks

Tracks which record and playback normal MIDI sequence data.

SIMM
Single In-line Memory Module: a type of RAM memory module commonly used by personal computers — and the RS7000 for sample storage.

Soft Pedal
Control change number 67: the type of MIDI control change message used to communicate soft pedal operation.

Song
A musical composition created by recording performance data on one or more tracks.

Sostenuto Pedal
Control change number 66: the type of MIDI control change message used to communicate sostenuto pedal operation.

Standard MIDI File (SMF)
SMF is an acronym for Standard MIDI File; a format that allows easy exchange of song data between different sequencers. Most of today's software and hardware manufacturers provide software/hardware that can read and write Standard MIDI Files.

Start Point
The point at which playback of a sample begins.

Step Recording
The method of recording in which music is input by entering notes one by one, specifying the note length, velocity, and pitch etc. of each note.

Style
The collective name for a set of 16 sections (A-P).

Synchronization
The function or process of matching the playback or recording tempo of a device with a separate, external device such as another sequencer or a rhythm machine.

System (effect)
An effect which can be applied to all parts by adjusting the Send Levels and Return Level. System effects allow reverb or chorus etc. to be applied to the overall music. The RM1x provides Reverb and Chorus as system effects. The Variation effect can also be used as a system effect.

System Exclusive Message
A type of MIDI message used to exchange data unique to a specific model or type of device.

T

Tap
The RS7000 [TAP] button can be used to tap-enter BPM values.

Track
A location where musical performance data is recorded.

Transpose
Shifting the overall pitch in semitone steps.

Tremolo
An effect produced by cyclically modulating the volume.

Trim
The act of “trimming” samples by specifying the desired start and end points in order to remove unwanted material.

Tuning
The process of matching the pitch of two or more instruments when playing in an ensemble. Normally, A3 is tuned to 440 Hz.

U

Undo
A function that “undoes” or cancels the previous operation.

Utility Mode
A mode on the RM1x in which system or MIDI settings can be made.

V

Variation Effect
One of the RS7000 effect stages. Variation effects can be used to produce dramatic sound variations. A wide variety of effect programs such as delay, rotary speaker, auto pan, amp simulation and auto wah are provided, in addition to reverb and chorus.

Velocity

A numerical value indicating the speed (force) with which a note was played.

Voice

A sound that is built into the tone generator that can be selected and played.

Voice Bank

Voices are organized into voice banks which can be selected by using MIDI bank select MSB and LSB data.

W

Wah Effect

An effect that cyclically modulates the tone. The RS7000 produces this effect by using an LFO signal to modulate the cutoff frequency of a filter. Wah effects are included in the Variation effect stage.

Wave

A digitally recorded instrument waveform.

Wet Sound

The audio signal that is processed by an effect. Normally when using an effect, not all of the audio signal is passed through the effect. Rather, the degree of the effect is adjusted by mixing the sound that passes through the effect (the wet sound) with the sound that bypasses the effect (the dry sound).

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FCC INFORMATION (U.S.A.)

1. **IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!**
   This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. **IMPORTANT:** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. **NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

   Relocate either this product or the device that is being affected by the interference.

   Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

   In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

   If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

   The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

(class B)

IMPORTANT NOTICE FOR THE UNITED KINGDOM

Connecting the Plug and Cord

WARNING: THIS APPARATUS MUST BE EARTHED

IMPORTANT. The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW	:	EARTH
BLUE	:	NEUTRAL
BROWN	:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or colored GREEN or GREEN-and-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

• This applies only to products distributed by Yamaha-Kemble Music (U.K.) Ltd. (3 wires)

NEDERLAND / THE NETHERLANDS

- Dit apparaat bevat een lithium batterij voor geheugen back-up.
- This apparatus contains a lithium battery for memory back-up.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat ann het einde van de levensduur afdankt of de volgende Yamaha Service Afdeiing:

  Yamaha Music Nederland Service Afdeiing
  Kanaalweg 18-G, 3526 KL UTRECHT
  Tel. 030-2828425

For the removal of the battery at the moment of the disposal at the end of the service life please consult your retailer or Yamaha Service Center as follows:

  Yamaha Music Nederland Service Center
  Address : Kanaalweg 18-G, 3526 KL UTRECHT
  Tel : 030-2828425

- Gooi de batterij niet weg, maar lever hem in als KCA.
- Do not throw away the battery. Instead, hand it in as small chemical waste.

(lithium disposal)

ADVARSEL!

Lithiumbatteri—Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandoren.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

(lithium caution)

IMPORTANT SAFETY INSTRUCTIONS

INFORMATION RELATING TO PERSONAL INJURY, ELECTRICAL SHOCK, AND FIRE HAZARD POSSIBILITIES HAS BEEN INCLUDED IN THIS LIST.

WARNING- When using any electrical or electronic product, basic precautions should always be followed. These precautions include, but are not limited to, the following:

1. Read all Safety Instructions, Installation Instructions, Special Message Section items, and any Assembly Instructions found in this manual BEFORE making any connections, including connection to the main supply.

2. Do not attempt to service this product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

3. Main Power Supply Verification: Yamaha products are manufactured specifically for the supply voltage in the area where they are to be sold. If you should move, or if any doubt exists about the supply voltage in your area, please contact your dealer for supply voltage verification and (if applicable) instructions. The required supply voltage is printed on the name plate. For name plate location, please refer to the graphic found in the Special Message Section of this manual.

4. **DANGER** -Grounding Instructions: This product must be grounded and therefore has been equipped with a three pin attachment plug. If this product should malfunction, the ground pin provides a path of low resistance for electrical current, reducing the risk of electrical shock. If your wall socket will not accommodate this type plug, contact an electrician to have the outlet replaced in accordance with local electrical codes. Do NOT modify the plug or change the plug to a different type!

5. **WARNING:** Do not place this product or any other objects on the power cord or place it in a position where anyone could walk on, trip over, or roll anything over power or connecting cords of any kind. The use of an extension cord is not recommended! If you must use an extension cord, the minimum wire size for a 25' cord (or less) is 18 AWG. NOTE: The smaller the AWG number, the larger the current handling capacity. For longer extension cords, consult a local electrician.

6. Ventilation: Electronic products, unless specifically designed for enclosed installations, should be placed in locations that do not interfere with proper ventilation. If instructions for enclosed installations are not provided, it must be assumed that unobstructed ventilation is required.

7. Temperature considerations: Electronic products should be installed in locations that do not seriously contribute to their operating temperature. Placement of this product close to heat sources such as; radiators, heat registers etc., should be avoided.

8. This product was NOT designed for use in wet/damp locations and should not be used near water or exposed to rain. Examples of wet /damp locations are; near a swimming pool, spa, tub, sink, or wet basement.

9. This product should be used only with the components supplied or; a cart, rack, or stand that is recommended by the manufacturer. If a cart, rack, or stand is used, please observe all safety markings and instructions that accompany the accessory product.

10. The power supply cord (plug) should be disconnected from the outlet when electronic products are to be left unused for extended periods of time. Cords should also be disconnected when there is a high probability of lightning and/or electrical storm activity.

11. Care should be taken that objects do not fall and liquids are not spilled into the enclosure through any openings that may exist.

12. Electrical/electronic products should be serviced by a qualified service person when:

a. The power supply cord has been damaged; or
b. Objects have fallen, been inserted, or liquids have been spilled into the enclosure through openings; or
c. The product has been exposed to rain; or
d. The product does not operate, exhibits a marked change in performance; or
e. The product has been dropped, or the enclosure of the product has been damaged.

13. This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

14. Some Yamaha products may have benches and/or accessory mounting fixtures that are either supplied as a part of the product or as optional accessories. Some of these items are designed to be dealer assembled or installed. Please make sure that benches are stable and any optional fixtures (where applicable) are well secured BEFORE using. Benches supplied by Yamaha are designed for seating only. No other uses are recommended.

PLEASE KEEP THIS MANUAL

For details of products, please contact your nearest Yamaha or the authorized distributor listed below.

Pour plus de détails sur les produits, veuillez-vous adresser à Yamaha ou au distributeur le plus proche de vous figurant dans la liste suivante.

Die Einzelheiten zu Produkten sind bei Ihrer unten aufgeführten Niederlassung und bei Yamaha Vertragshändlern in den jeweiligen Bestimmungsländern erhältlich.

Para detalles sobre productos, contacte su tienda Yamaha más cercana o el distribuidor autorizado que se lista debajo.

NORTH AMERICA

CANADA
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